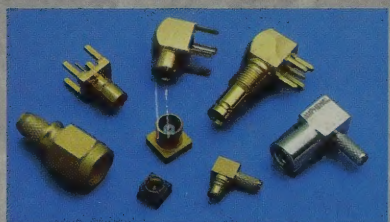


Amphenol[®]

RF CONNECTORS



Amphenol Communications and
Network Products Division

Connector Frequency Range Chart

mm
40-100 GHz
Ka
26-40 GHz
K
18-26 GHz
Ku
12.4-18 GHz
X
8-12.4 GHz
C
4-8 GHz
S
2-4 GHz
L
1-2 GHz
UHF
300 MHz
1 GHz
VHF
100-300 MHz

APC 2.4

APC 3.5

APC-7 SMA

N

RP-TNC

TNC

1.0/

2.3 SMC

7/16

MMCX

MCX

BNC

50Ω

BNC

75Ω

SMB

F

FME

Mini-UHF

1.6/5.6

UHF

Twintax

BNC

Point to Point
Cable Routers
LAN

Broadcast TV
LAN

Cable TV
Mobile Radio
Body Scanners

Telecommunications
Airport Search Radar
Test & Measurement
Datacom

Satcom (uplink)

Airborne Radar
Navigation Radar
Antenna
Base Stations

Satcom (downlink)
Test & Measurement
Police Radar
Microwave Radio Links

Instrumentation

Test & Measurement
High Frequency
Communication

Military/Aerospace
Electronic Warfare

Amphenol®

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Micromate (MMCX)	1-12	1.6/5.6	133-136
MCX	13-16	UHF	137-142
1.0 / 2.3	17-20	Mini-UHF	143-146
SMB	21-36	Type F	147-156
SMA	37-66	Type G	157-160
BNC	67-96	Reverse Polarity	161-168
BNC Twin	97-100	Adapters, Between Series	169-174
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Twinaxial	123-126	Index	231-241





Amphenol®

The Company

Amphenol Corporation is one of the largest manufacturers of interconnect products in the world. The company designs, manufactures and markets RF/microwave connectors; flat ribbon cable and interconnect systems; CATV cable and connectors; electronic connectors; and fiber-optic connectors. The primary end markets for Amphenol products are communications and information processing, including cable television, cellular telephone, data communications and instrumentation; aerospace and military electronics; automotive, rail and other transportation; and industrial applications.

Amphenol Corporation is a world leader in providing integrated interconnect solutions to the telecommunications industry. Recognized worldwide as a technology leader in the wireless market, Amphenol offers a full complement of RF coaxial products from MMCX connectors used on cellular subscriber units to low intermodulation 7-16 DIN connectors used on cellular base stations. Today, Amphenol is a major player in this global arena; a position founded on the combined strengths

of a broad product line and a leadership role in product innovation.

As the information super highway expands, the demand for interconnect solutions continues to grow into new and exciting areas. Amphenol is a leading producer of broadband coaxial cable, connectors and fiber optic interconnect components.

Amphenol is uniquely capable of supplying the complete Hybrid Fiber/Coaxial (HFC) interconnect systems which form the backbone of the information super highway. As a result, every household, business, private and government institution is a potential customer and will depend on Amphenol's commitment to quality and product innovation.

In the area of computers and electronic data interchange, Amphenol continues to concentrate on the fastest growing segments; such as cable assemblies and line terminators which bring reliable, miniaturized solutions to LANS and other interactive communications networks, to high density connectors utilized in next generation global telecommunications switching systems.

Amphenol's ability to provide fully integrated solutions even extends into the arena of smart card technology, where microchips and sophisticated chip card acceptor devices are being combined for a growing number of applications from banking, to security, to medicine, to voice recognition systems.

Maintaining this position as a leader in the field of communications requires close interaction with a worldwide customer base through international management teams, distributed manufacturing, global quality assurance programs and sophisticated distribution networks. By remaining totally committed to the customer, Amphenol provides the very highest levels of quality and responsive service, anywhere in the world.

Did You Know?

UHF - Invented in the 1930's by an Amphenol engineer, E. Clark Quackenbush, for use in the radio industry.

N - Was the first coaxial connector capable of microwave performance and was invented by and named for Paul Neill of Bell Labs.

C - Invented by and named for Amphenol engineer Carl Concelman. Type C has quick connect/disconnect bayonet coupling features.

BNC - A miniature version of the Type C. The name stands for Bayonet Neill Concelman.

TNC - The name stands for Threaded Neill Concelman. This series features screw threads for mating.

Amphenol RF Division

Amphenol is the world's largest manufacturer of RF connectors with experience extending over half a century. Our complete range of RF interconnect products are used in the cellular/PCS, telecommunications, computer networking and instrumentation industries. These include Standard/ Miniature connectors (UHF, Mini-UHF, N, 50 & 75 ohm BNC, and RP-BNC, Twinaxial, DIN 1.6/5.6, TNC and RP-TNC); Subminiature connectors (SMA and RP-SMA, SMB, SMC, DIN 1.0/2.3, and size 8 contacts); MicroMate™ Microminiature connectors; DIN 7-16 and corrugated cable connectors. Amphenol offers a full line of semiflex and drop cable connectors to meet the demanding requirements of HFC broadband infrastructure being developed by CATV MSOs and telephone companies worldwide.

Commitment to Customer Service

For over 60 years, leading manufacturers of communications, consumer, industrial and aerospace products have relied on Amphenol to provide total interconnect solutions.

Maintaining this high level of customer trust requires a total concern for complete customer satisfaction at all levels — from engineering, to manufacturing, to quality assurance. Since many products are custom designed to individual customer specifications, often for the harshest environments, it's critical that a teamwork approach be taken, involving the customer at all levels. It starts with the design engineers who listen closely to customer needs, combining solid analytic skills with the latest CAE and CAD tools to quickly solve problems.

Amphenol also employs multi-functional teams to ensure that all products are designed for manufacturability. Serving the needs of our customers also requires a strong worldwide manufacturing presence. That's why we operate advanced production and assembly facilities strategically located across three continents. Yet, our quality remains exceptionally uniform and internationally standardized, from raw materials testing, through design engineering, to automated manufacturing and sub-assembly, to fully documented and traceable test

procedures developed in accordance with customer specifications. Amphenol also employs Statistical Process Control and has obtained ISO 9000 Certification for all its production facilities worldwide. As a result, we offer precisely what every customer is looking for — world class quality at the lowest possible cost.

How to Use This Catalog

Frequency Range

The application frequency range may limit the connector choice. Refer to the inside front cover for the Frequency Range Chart.

Cable

The cable specified may limit the connector choice. Refer to pages viii and ix for cable/connector chart.

Impedance

For maximum impedance matching, the connector has the same impedance as the cable. Standard connector choices are 50 ohm or 75 ohm.

Coupling Style

The application will determine the coupling mechanism preference. Basic styles: 2-Stud Bayonet, Threaded, Snap-on, and Slide-on.

Performance Specifications

The application performance requirements may limit the connector choice. Criteria to consider: Voltage Rating, Dielectric Withstand Voltage, and Voltage Standing Wave Ratio (VSWR).

Reviewing The Connector Choices

Refer to the Connector Selector Guide on pages vi-vii for a quick overview of each product series

Locating The Connector Series

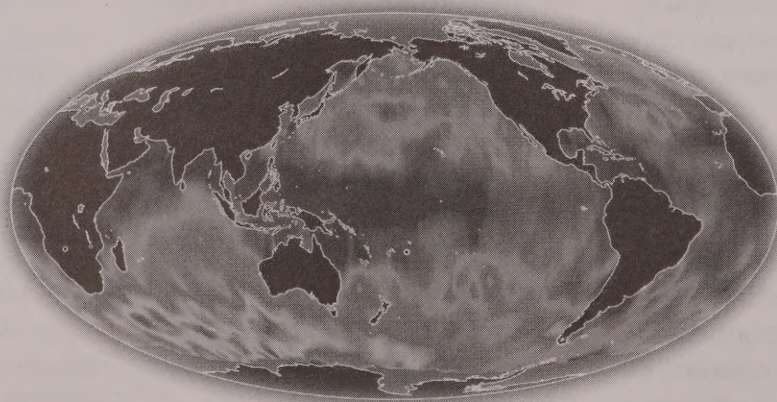
Refer to page i for product series listings. At the beginning of each product series is information pertaining to the connector mating face dimensions and typical characteristics regarding mechanical, material, environmental and performance of the connector design.

Connector P/N

The connector part number is located in the far right column, opposite the appropriate cable.

Cable

The cable listed in the first column is based on the mechanical size of military specified cable. Caution is advised when a commercial, RG Type size cable is being used since the cable dimensions may vary and result in a different size center conductor, dielectric, braiding and outer jacket of the cable. If the manufacturer's commercial cable P/N is not listed, contact Amphenol's customer service representative for the appropriate connector recommendation.



Specific Connector Information

Each connector listed has a plating code / Plt.; insulation code / Ins.; and cable assembly instruction / CAI. Refer to page 232 for the code charts.

Example:

D1 = TFE or equivalent

P1 = Nickel plated body, silver plated contact

Cable Assembly Instructions

If you already know the connector P/N and are looking for the assembly instructions, refer to the Connector Assembly Index on pages 240-241. The appropriate CAI code number is listed opposite the connector part number.

Design Considerations

Typically, the shorter the cable assembly, the more critical the connector insertion loss becomes.

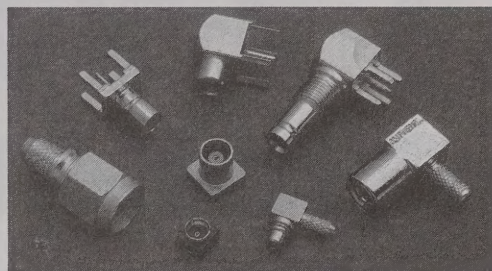
Typically, the longer the cable assembly, the less critical the connector insertion loss becomes.

Typically, the higher the frequency, the more critical the connector insertion loss becomes.

Typically, the more critical the connector insertion loss, the more critical the matched impedance of the cable and the connector becomes.

Intermodulation (IM)

Intermodulation is a phenomena that occurs when two or more fundamental frequencies are present in an electronic circuit. Passive components must eliminate or minimize nonlinearities known to generate IM. Two sources which create nonlinearities are contact junctions and ferromagnetic materials. Small separation of contact surfaces can generate microscopic arcing. The use of nickel or steel can also generate IM due to nonlinear voltage to current ratio.



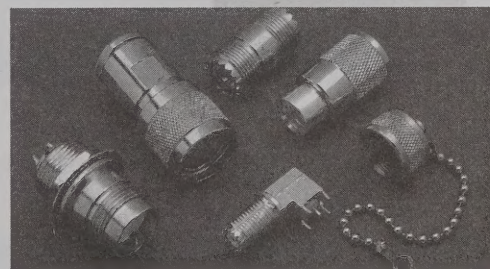
Subminiature, Microminiature



7/16, N











Miniature






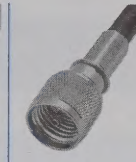

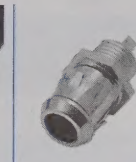
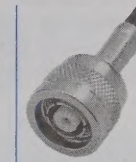


Standard

RF Connectors Overview

Amphenol®

								
Series	MMCX 908	MCX 919	1.0/2.3 102	SMB 903	SMA 901	BNC 31, 456	BNC TWIN 31	7/16 716
Impedance	50 ohms nominal	50 ohms nominal	50 ohms nominal	50 and 75 ohms nominal	50 ohms nominal	50 and 75 ohms nominal	non-constant	50 ohms nominal
Frequency Range	0-6 GHz	0-6 GHz	0-10 GHz	0-4 GHz	0-18 GHz High Performance 0-26.5 GHz	0-4 GHz	0-100 MHz	0-7 GHz
VSWR	1.2 max (straight connectors)	1.3 max (straight connectors)	1.3 max (straight connectors)	1.35 max (straight connectors)	1.25 max 0-18 GHz	1.3 max (straight connectors)		Defined by cable used
Voltage Rating	500 volts peak	335 volts peak	350 volts peak	335 volts peak	500 volts peak	500 volts peak	100 volts peak	2700 volts peak
Temperature Range	-40°C to +90°C (Teflon insulators)	-65°C to +165°C (Teflon insulators)	-40°C to +155°C (Teflon insulators)	-65°C to +165°C (Teflon insulators)	-65°C to +165°C (Teflon insulators)	-65°C to +165°C (Teflon insulators)	-65°C to +165°C (Teflon insulators)	-40°C to +150°C (Teflon insulators)
Cable Termination	Crimp solder	Crimp solder	Crimp-solder	Crimp-solder	Crimp solder	Crimp, clamp, soretwist®, solder	Clamp	Crimp, solder, clamp
Coupling Type	Snap-on coupling	Snap-on coupling	Snap-on coupling	Snap-on coupling	1/4-36 threaded coupling	Two stud bayonet lock	Two stud bayonet lock	M29-1.56 g threaded coupling
Standards	CECC 22000	CECC 22220	CECC 22230	Mil-C-39012	Mil-C-39012 Mil-A-55339	Mil-C-39012 Mil-A-55339	Mil-C-3655	IEC 169-4 DIN 47223
Page	1-12	13-16	17-20	21-36	37-66	67-96	97-100	101-108

								
TYPE N	TWINAX	TNC	1.6/5.6	UHF	MINI-UHF	TYPE F	TYPE G	REVERSE POLARITY
82, 5, A	82	31	156	83	81	531	531	various
50 ohms nominal	non-constant	50 ohms nominal	75 ohms nominal	non-constant	50 ohms nominal	75 ohms nominal	75 ohms nominal	50 ohms nominal
0-11 GHz	0-200 MHz	0-11 GHz	0-1 GHz	0-300 MHz	0-2.5 GHz	0-3 GHz	0-3 GHz	SMA 0-18 GHz TNC 0-11 GHz BNC 0-4 GHz
1.3 max (straight connectors)		1.3 max (straight connectors)			1.25 max	30 dB Return Loss @ 1 GHz	30 dB Return Loss @ 1 GHz	SMA 1.25 max TNC, BNC 1.30 max
1500 volts peak	500 volts peak	500 volts peak	330 volts peak	500 volts peak	335 volts peak	15 watts continuous		500 volts peak
-65°C to +165°C (Teflon insulators)	-55°C to +85°C (Styrene insulators)	-65°C to +165°C (Teflon insulators)	-40°C to +165°C (Teflon insulators)	-55°C to +149°C (Phenolic insulators)	-55°C to +85°C (Polypropylene insulators)	-40°C to +60°C	-40°C to +60°C	-65°C to +165°C (Teflon insulators)
Clamp, crimp, solder	Clamp	Clamp, crimp-solder	Crimp-crimp	Solder, crimp	Crimp	Solder	Solder	Crimp
5/8-24 threaded coupling	3/4-20 threaded coupling	7/16-28 threaded coupling	M9 x 0.5 threaded coupling	5/8-24 threaded coupling	3/8-24 threaded coupling	3/8-32 threaded coupling	Push-on	SMA 1/4-36 threaded TNC 7/16-28 threaded BNC bayonet
Mil-C-39012 Mil-A-55339	Mil-C-3655	Mil-C-39012 Mil-A-55339		IEC Publication 169-12		—	—	
109-122	123-126	127-132	133-136	137-142	143-146	147-156	157-160	161-168

RF Connectors Cable Selection Chart

Amphenol®

Series	908	919	102	903	901	31, 456	31	716
Cable	MMCX	MCX	1.0/2.3	SMB	SMA	BNC	BNC TWIN	7/16
6,6 Type, Belden 9248						70, 71, 87		
8, 9, 11, 213, 214						71, 87		
22								
55, 142, 223, 400, TWB 1042, 4001					41-45, 58, 59	70-75		
58, 141, TWB 5800					41-45, 58, 59	70-75		
Plenum 58, 82907, 88240, 89907						70, 71		
20AWG 59, Plenum 59, 59, 62						70-74, 87, 88		
CATV 59, 6, 7								
Double Braid 59						87		
Quadshield 59						87		
108A							99	
122						71		
140, 210, 302						70		
141B					41, 42			
144, 165								
174, 188, 316	8, 9, 10	15	19	23,24,31,41-45,58,59		70, 71, 73-75		
RD188, RD316 (2 braids)				23, 24	42-45	70, 75		
178, 196	8,9			23	42	71, 75		
179, 187				23,24,31,34,41-45		70,73,75,87,88		
RD179 (double braid)						87, 88		
180, 195			19	31		71		
196				23				
214, 216, 225, 393								106, 107
.047S/R	9, 10							
.085 S/R, .086 S/R	8, 10	16			40-45, 58			
.141 S/R		16			40, 43-45, 58			107
.250 S/R								107
734A						87		
735A TYPE				34		87		
Helical 1/4, 3/8, 1/2, 7/8, 1 1/4, 1 5/8								103, 104
TWB 6001								
.064/.285/1/.405; Belden 8213						70		
.017/.100/1/.150; Belden 8218						70, 87		
Belden 8227, 9207, IBM 7362211						87		
Belden 8281, 88281						70, 87		
.031/.198/2/.305 Belden 9231						87		
Belden 9259, 9907, 89907						70		
.025/.146/1/.260 Belden 9268						72		
.108/.146/1/.405 Belden 9913								
.103/.286/1/.405 Belden 9914								
Belden 9880, 89880								

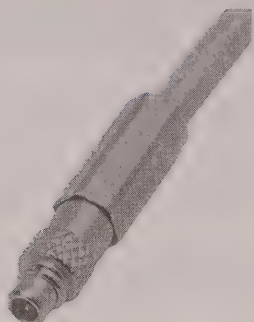
RF Connectors Cable Selection Chart

Amphenol®

Overview

82, 5, A	82	31	156	83	81	531	531	various
TYPE N	TWINAX	TNC	1.6/5.0	UHF	MINI-UHF	TYPE F	TYPE G	REVERSE POLARITY
111, 113	125			139				
111-113		129, 130						163, 166
111, 113		129, 130		139	145			166, 168
		129		139				
						154, 155		
				139				
111								
113		130						163, 164, 168
								166
111-113								
								163, 164
111-113								
118-121								
111-113								
	125							
111								
111								
111								

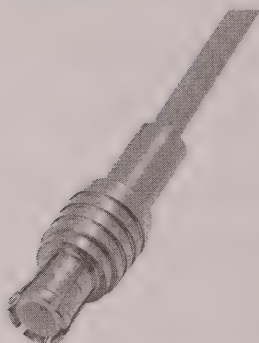
MMCX



Amphenol's MicroMate™ MMCX connector line is a family of products designed as the next generation 50 ohm microminiature surface mount coaxial interconnection system. Providing a more robust interface for greater durability, this series is ideal for high volume wireless SMT or PCMCIA applications in cellular base stations, cellular phones and personal communicators, global positioning systems (GPS) and wireless LAN (WLAN) applications.

Pages 1-12

MCX

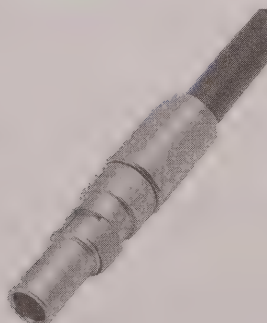


To address the rapid implementation of the U.S. digital cellular PCN infrastructure, Global Positioning Systems (GPS) and Instrumentation and Wireless LAN Systems, Amphenol has optimized its MCX product offering to target these high growth market applications.

The growth rate of these emerging markets has fueled an increasing demand for subminiature coaxial connectors with very good electrical performance to 6 GHz.

Pages 13-16

1.0/2.3



The 1.0/2.3 series of coaxial connectors are designed for in telecommunication systems requiring a subminiature 50 ohm slide on / screw on connector. These connectors comply with the requirements of DIN41626, DIN 47297 INFC 93569 INFC 93571 and CECC22230. The connectors perform DC through 10 GHz, and feature crimp cable termination for low installation cost.

Pages 17-20

SMB



SMB connectors feature quick connect/disconnect snap-on mating and are available in both 50 and 75 ohm impedance structures. For maximum space utilization, Amphenol also offers a high density 75 ohm version. This series of connectors conform to the requirements of MIL-C-39012 and the interface is in compliance with MIL-STD-348. Using highly efficient die cast molds and high speed fully-automated assembly equipment. Amphenol's SMB connector line offers a cost effective solution for digital cellular PCN, Global Positioning Systems (GPS) and wireless LAN systems needs.

Pages 21-36

SMA



Amphenol's 50 ohm SMA connectors are semi-precision subminiature connectors performing DC through 18 GHz. SMA connectors are primarily used where trends toward higher frequencies, miniaturization, and SMA connectors are built in accordance with MIL-C-39012 and CECC 22110/111, and are available for a variety of flexible and semi-rigid cables. Amphenol's line of brass SMA connectors provide a cost effective solution for applications where stainless steel construction is not required.

Pages 37-66

BNC



BNC connectors are miniature, lightweight connectors widely used in computer networks, test and instrumentation, telecommunications and broadcast industries. Their quick disconnect bayonet coupling, small size, and low cost are key features. Cable termination styles available include crimp/crimp, one piece Suretwist®, traditional solder/clamp styles as well as field serviceable terminations requiring no special tools. BNC connectors are available both with 50 ohm and 75 ohm impedance structures, for applications where impedance match is important. Typically, the 75 ohm BNC's are used in video and telecommunication applications.

Pages 67-96

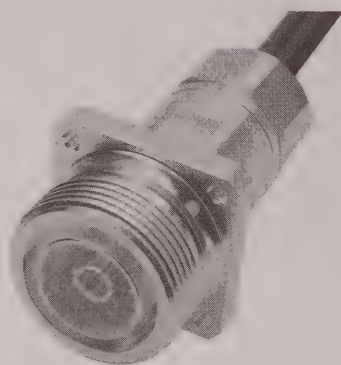
BNC Twin



Amphenol's twin contact connectors are used in balanced line, high sensitivity circuits. These applications typically center on computer networks and equipment and process control devices. The BNC-twin connectors feature the same two-stud bayonet locking mechanism as standard coaxial BNC connectors where quick connect/disconnect is an advantage.

Pages 97-100

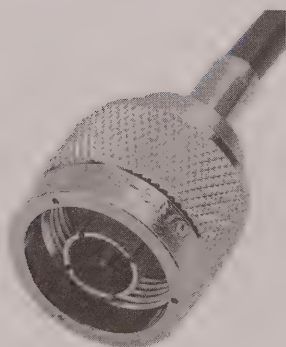
7/16



Amphenol's 7/16 connectors are designed for use in medium to high power communication systems. These connectors perform exceptionally well in multichannel cellular systems where power levels approximate 100 watts per channel. Designed for both flexible as well as corrugated cables, these connectors are used in a variety of cellular base station and broadcast communication applications. Amphenol's designs offer superior IMD characteristics and assembly onto corrugated cable has been greatly simplified.

Pages 101-108

Type N



Type N connectors are medium size threaded connectors for use DC through 11 GHz and feature a characteristic 50 ohm impedance structure. Applications for N connectors include base station equipment, broadcast and satellite communication systems as well as test and instrumentation equipment. Connector performance is per MIL-C-39012, with commercial grade versions available for the most popular configurations. Cable termination includes clamp styles and crimp styles, and connectors are available for the most widely used coaxial cables.

Pages 109-122

Twinax



Amphenol twin contact connectors are used in balance line, high sensitivity circuits. The keyed twinax style of connectors feature keyway polarization to insure system integrity and prevent signals from being mixed. These connectors have been primarily used on computer mainframe and peripherals and related network applications and are designed to terminate large size twinaxial cables.

Pages 123-126

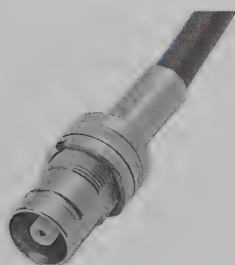
TNC



Amphenol TNC connectors were originally developed for aircraft and missile application where extreme vibration is a factor. TNC connectors are of miniature size like the BNC connector but feature a threaded coupling nut for application requiring performance through 11 GHz. Chosen for their durability and reliability, TNC connectors are widely used in the cellular/mobile communication industry for equipment cabling and antenna interfaces.

Pages 127-132

1.6/5.6



The 1.6/5.6 is a miniature 75 ohm connector primarily designed for use in the telecommunication industry. The snap-on mating face allows for quick mating for test purposes, and it is also threaded to provide a durable condition when mated. Crimp/crimp cable terminations provide ease of assembly and low installation costs, and the small size allows for dense packing on equipment.

Pages 133-136

UHF



Amphenol UHF connectors are the original radio frequency connector interface. They are general purpose units which operate satisfactorily DC to 300 MHz. Applications include citizens band radio receivers, public address systems, and a variety of other low frequency system applications where cost is a prime consideration.

Pages 137-142

Mini-UHF



Mini-UHF connectors are a miniature version of the original UHF connector and feature a threaded coupling mechanism for reliable mating. The mini-UHF connector is designed for use in cellular mobile telephone systems where size, weight, and cost are critical. Featuring crimp cable termination for low installation costs, these connectors provide excellent RF performance in applications through 2.5 GHz.

Pages 143-146

Type F



Amphenol has developed a variety of board level F receptacles for use on high speed modems and CIU's. These connectors utilize Amphenol's unique female contact design featuring a true cylindrical coaxial contact. As a result, superior RF performance and excellent insertion / withdrawal characteristics are achieved. We also offer designs capable of handling up to 15 amps for future set-top box applications. F receptacles are available in multiple styles including SMD versions complimenting Amphenol's line of drop F connectors and adapters.

Pages 147-156

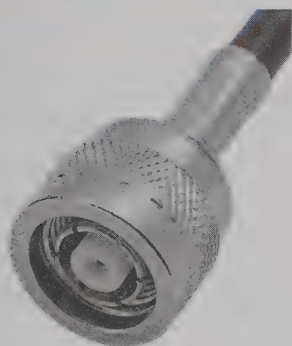
Type G



Amphenol has developed a range of high performance G receptacles for use in today's 1 GHz amplifier and fiber optic node equipment designs. Amphenol has also developed a series of 15 amp G receptacles for HFC networks. These connectors are designed to meet the 15 amp current capability required to power loop electronics in support of enhanced telephony services being implemented by CATV MSO's and telco's.

Pages 157-160

Reverse Polarity



Amphenol's reverse polarity connectors have been developed to meet the requirements of the FCC part 15.203 dictating the need for a non-standard interface to be used on connectors designed for spread spectrum wireless devices. Amphenol offers reverse polarity interfaces in the SMA, TNC and BNC connector line, allowing the user the greatest flexibility for cable and size constraints. Featuring all crimp terminations, these connectors feature performance consistent with the corresponding non-polarized product family.

Pages 161-168

Notes

Description

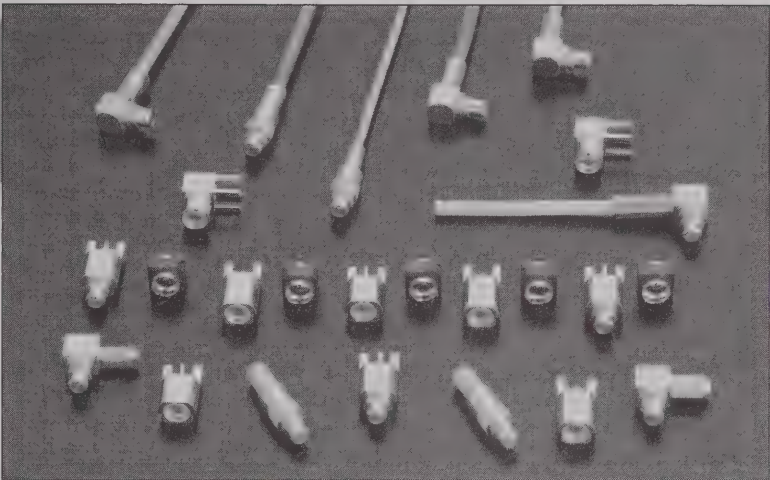
The MicroMate family of products is a 6 GHz 50 ohm interconnect system.

Applications

- PCMCIA Cards
- Wireless Applications
- Antennas
- Wireless LANs
- Broadband Communications
- Instrumentation
- RF Test Ports
- Cellular Telephones
- Global Positioning Systems (GPS)
- Base Stations
- Radio Boards
- Satellite Reception Terminals

Features/Benefits

- Mating cycles \geq 500.
- SMT available in single, bulk, tape and reel packaging.
- Conforms to CECC 22000 specifications.



MMCX	
Specifications	2
Surface Mount	3
Application Notes	4
Edgecard & PCB Mount	5-6
Application Notes	7
Cable Connectors	8-10
Between Series Cable Assemblies	11

SPECIFICATIONS*

ELECTRICAL

	CECC22000	Test Requirement
Impedance		50 Ohm
Frequency Range		DC thru 6 GHz
VSWR	4.4.1	
SMT and Edgecard (Mated Pair)		1.15 Max 1.40 Max
DC - 4 GHz		
4-6 GHz		
Cabled		
Straight, Semi-Rigid		1.15 Max
Straight, Flex		1.20 Max
Right Angle, Semi-Rigid		1.20 Max
Right Angle, Flex		1.25 Max
Dielectric Withstanding Voltage (at Sea Level)	4.4.5	500 V rms, 50 Hz
Working Voltage (at Sea Level)	4.4.4	≤170 V rms, 50 Hz
Insulation Resistance	4.4.4	≥500 MΩ
Contact Resistance		
Center Conductor	4.4.2	≤10 MΩ
Outer Conductor	4.4.3	≤5 MΩ

* These characteristics are typical and may not apply to all connectors.

ENVIRONMENTAL

	CECC22000	Test Requirement
Temperature Range		-40°C thru 90°C
Temperature Shock	4.6.7	Mil-STD-202, Method 107
Humidity	4.6.6	Mil-STD-202, Method 103, Condition B
Vibration	4.6.3	3 cycles, 3 opposite directions, 10-150 Hz, 10-60 Hz: 0.75mm/.030 in., 60-150Hz 10G's
Mechanical Shock	4.6.4	Mil-STD-202, Method 213, Condition B

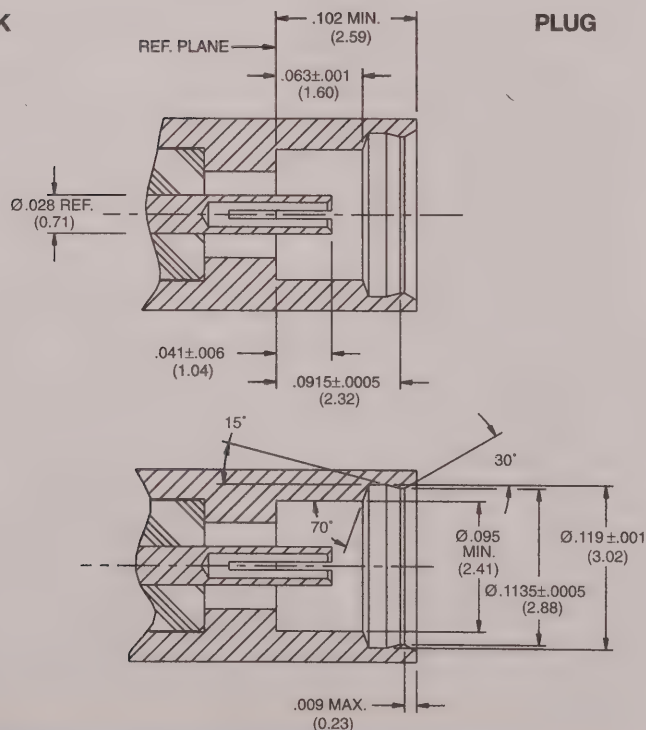
MECHANICAL

	CECC22000	Test Requirement
Engagement Force	4.5.4	≤3.4 lbs.
Disengagement Force	4.5.4	1.4 lbs. to 3.4 lbs.
Contact Captivation	4.5.2	2.3 lbs.
Durability (Machined)	4.7.1	≥500 cycles

MATERIAL

Connector Part	Standards	Material	Plating
Leads	QQ-C-530	BeCu	Gold
Contact Socket	QQ-C-530	BeCu	Gold
Outer Conductor	QQ-C-530	BeCu	Gold
Housing (SMT)	—	Liquid Crystal Polymer	—
Insulator	ASTM-D1457	PTFE	—

JACK



PLUG

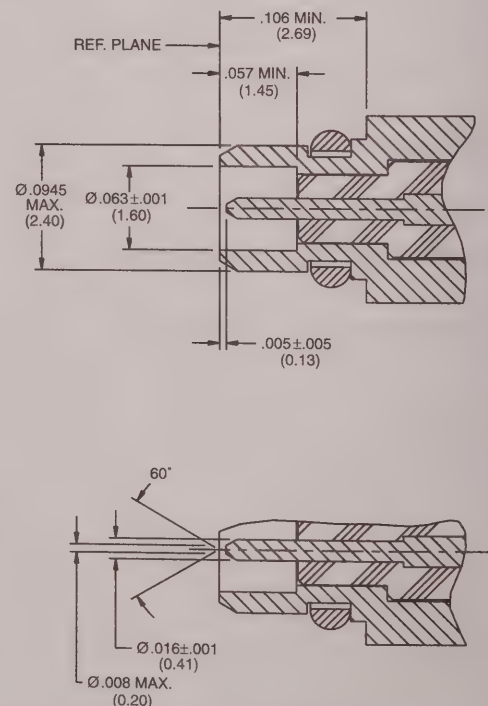
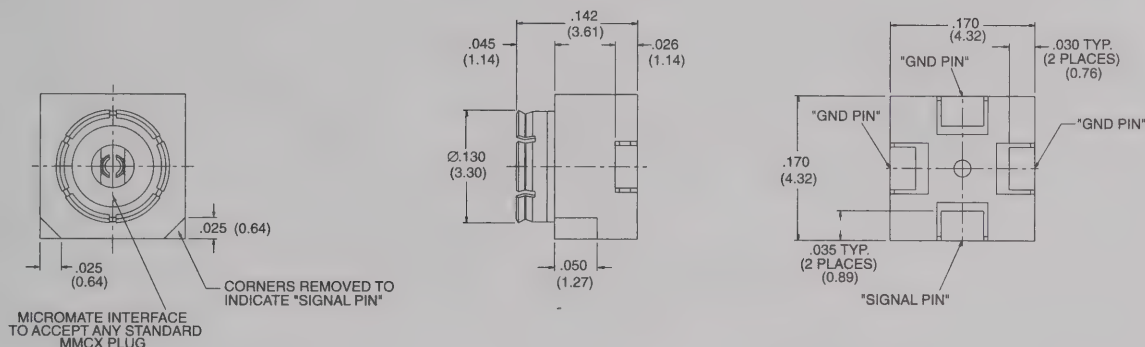


Fig. 1



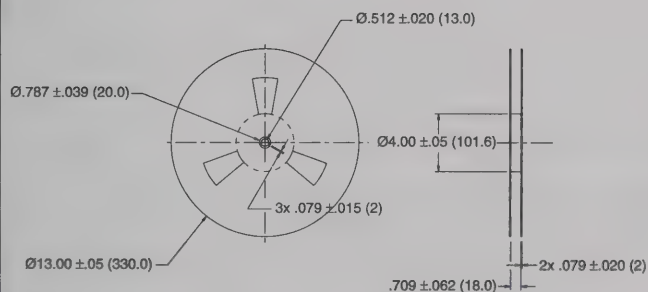
MMCX Surface Mount Jacks

908-22101▲

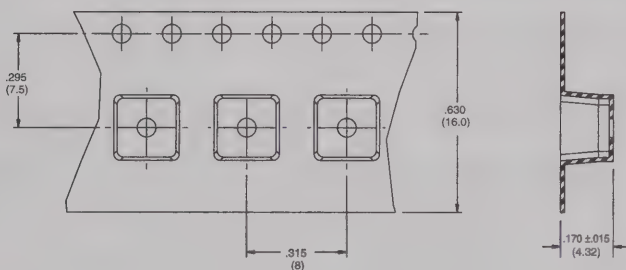
908-22101B

908-22101T▲

Reel Dimensions*



Tape and Reel Packaging*



* Blister tape packaged uniformly for vertical mounting and supplied in accordance with IEC 286-3/EIA 481

MicroMate™ (MMCX) SURFACE MOUNTS

Description	Plt.	Ins.	Contact & Body	Mtg. Patterns/Page No.	Amphenol Number	Fig.
SMT Jack, Single Packed	P11	L1	Stamped Beryllium Copper	Fig. M3/4 or M4/4	▲ 908-22101	1
SMT Jack, Bulk Packed	P11	L1	Stamped Beryllium Copper	Fig. M3/4 or M4/4	908-22101B	1
SMT Jack, Tape & Reel	P11	L1	Stamped Beryllium Copper	Fig. M3/4 or M4/4	▲ 908-22101T	1

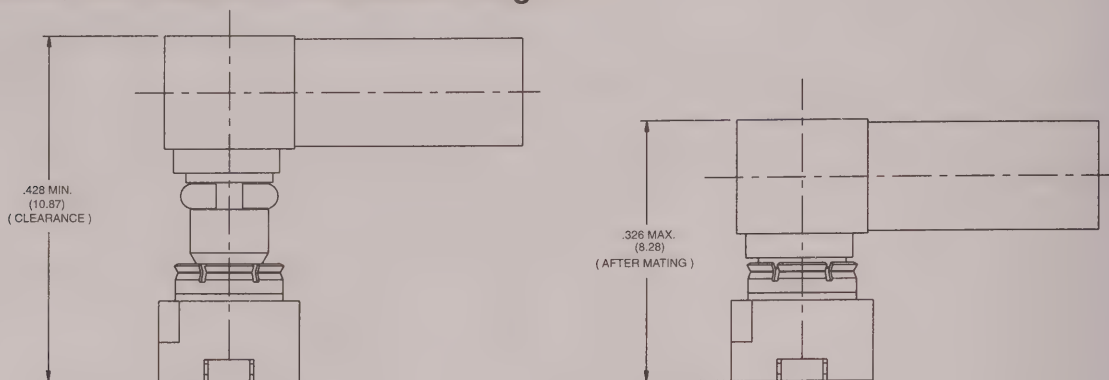
▲ Distributor Stocked

MicroMate™ (MMCX)

Surface Mount Application Notes

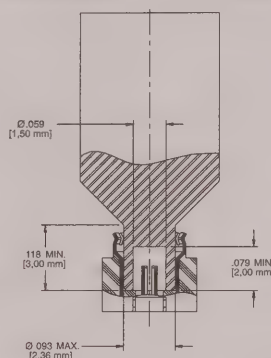
Amphenol®

Dimensions for Clearance and Mated Height



Pick and Place Automation

- Amphenol Surface Mount connectors can be assembled to printed circuit boards by state of the art pick and place equipment.
 - Connector pick-up by suction tip
 - Optional insertion tip (see illustration)

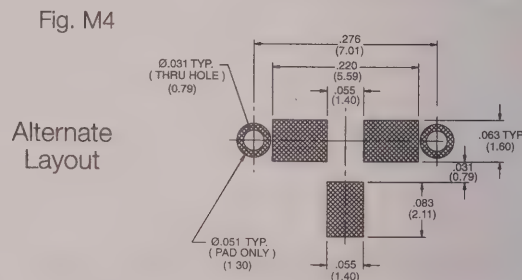
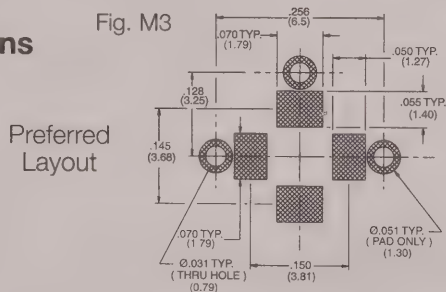


Application Notes

Amphenol SMT solder joints act as the mechanical bond to the printed circuit board and also functions as the point of electrical contact. With this in mind, the following points should be considered:

- Avoid forces from the cable of the mating connector to the surface mounted connector.
- For connecting and disconnecting of the surface mounted connector only non-axial forces should be applied. Non-compliance may cause excess torque and damage the solder connectors.

Recommended Mounting Patterns

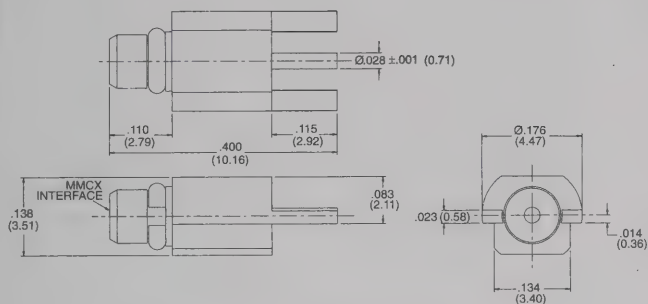


Soldering

MicroMate (MMCX) product is compatible with the following soldering methods.

- Infrared Soldering (Max 260°C/500°F)
- Vapor Phase Soldering (215°C/419°F)
- Normal Eutectic Solder Paste (63% tin, 37% lead)
- If stenciled or screened in accordance with the mounting patterns above

Fig. 1

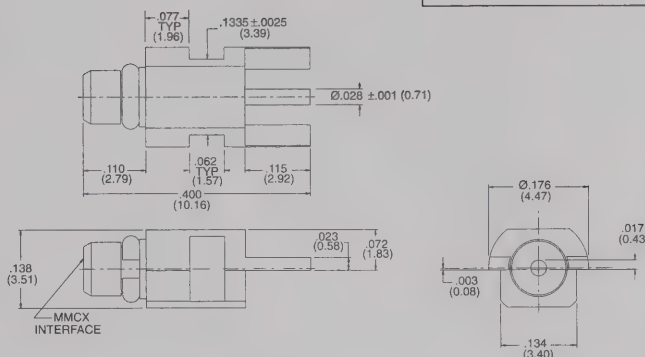


MMCX Edgecard or Vertical Mount Plug

908-21100▲

908-21100T

Fig. 2

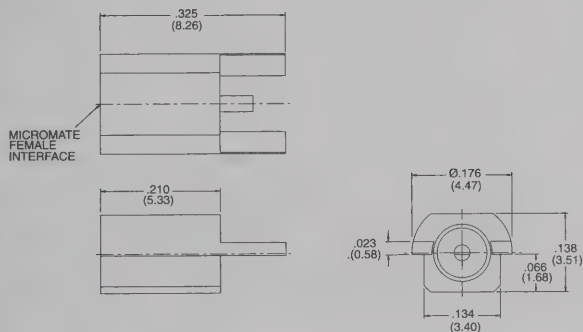


MMCX Edgecard Mount Plug - Offset

908-21102

908-21102T

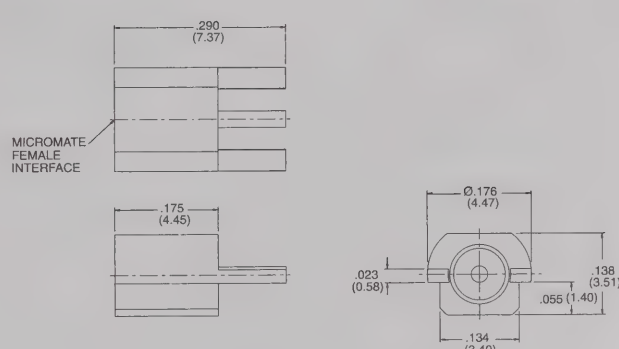
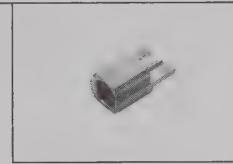
Fig. 3



MMCX Edgecard Mount Jack - Offset

908-22103

Fig. 4

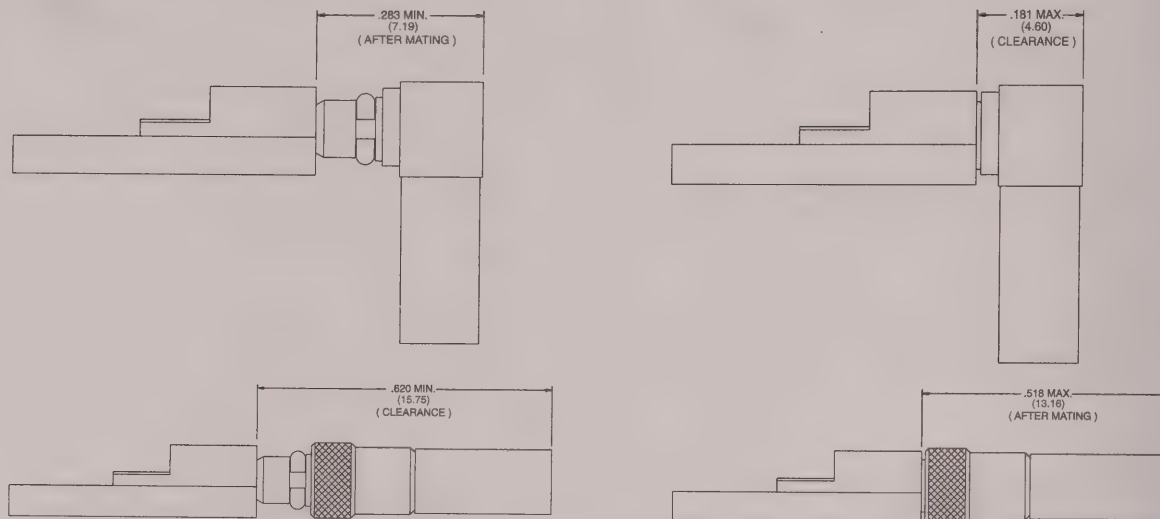


MicroMate™ (MMCX) EDGECARD AND PCB MOUNTS

Description	Plt.	Ins.	Contact	Mtg. Patterns/Page No.	Construction Notes	Amphenol Number	Fig.
Edgecard Plug	P11	D1	Brass	Fig. M2/7 & M5/6	Machined	▲ 908-21100	1
Edgecard Plug, Tape & Reel	P11	D1	Brass	Fig. M2/7 & M5/6	Machined	908-21100T	1
Edgecard Plug, Offset	P11	D1	Brass	Fig. M5/6	Machined	908-21102	2
Edgecard Plug, Offset, Tape & Reel	P11	D1	Brass	Fig. M5/6	Machined	908-21102T	2
Edgecard Jack	P11	D1	BeCu	Fig. M2/7 & M5/6	Machined	▲ 908-22100	4
Edgecard Jack, Tape & Reel	P11	D1	BeCu	Fig. M5/6	Machined	908-22100T	4
Edgecard Jack - Offset	P11	D1	BeCu	Fig. M5/6	Machined	908-22103	3

▲ Distributor Stocked

Dimensions for Clearance and Mated Height



Pick and Place Automation

- Amphenol Edgecard Mount connectors can be assembled to printed circuit boards by state of the art pick and place equipment.
- Connector pick-up by suction tip

Application Notes

- Avoid radial forces from the cable of the mating connector to the surface mount connector
- Secure the cable sufficiently
- Apply only axial forces during mating and de-mating

Recommended Mounting Pattern

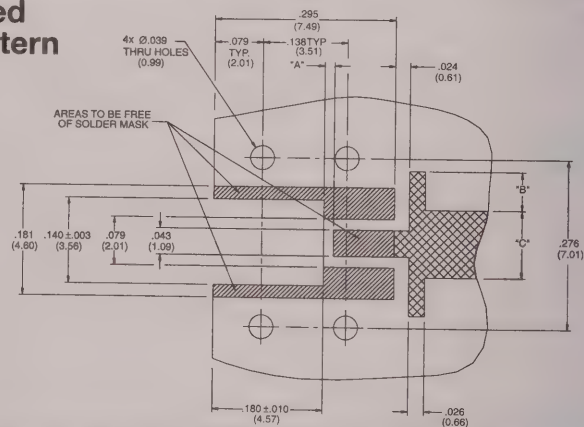


Fig. M5

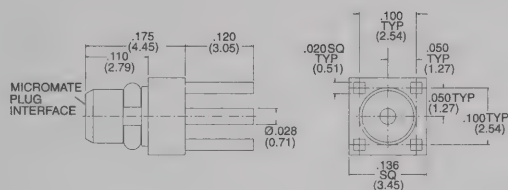
Thickness (FR 4, Er=4.6)	"A"	"B"	"C"
.031 (0.79)	.039 (0.99)	—	.055 (1.40)
.039 (0.99)	.035 (0.89)	.012 (0.30)	.071 (1.80)
.063 (1.60)	.016 (0.41)	.063 (1.60)	.110 (2.79)

Soldering

MicroMate (MMCX) product is compatible with the following soldering methods.

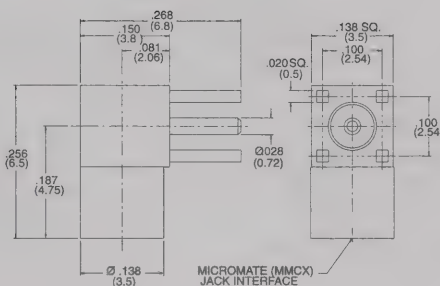
- Infrared Soldering (Max 260°C/500°F)
- Vapor Phase Soldering (215°C/419°F)
- Normal Eutectic Solder Paste (63% tin, 37% lead)
- If stenciled or screened in accordance with the mounting pattern above

Fig. 1



MMCX Straight PCB Mount Plug - Thru-Hole
908-21103▲

Fig. 2



MMCX Right Angle PCB Mount Jack - Thru-Hole
908-24100

Mounting Patterns

Fig. M1

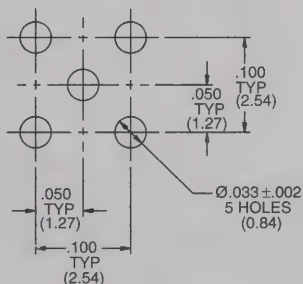
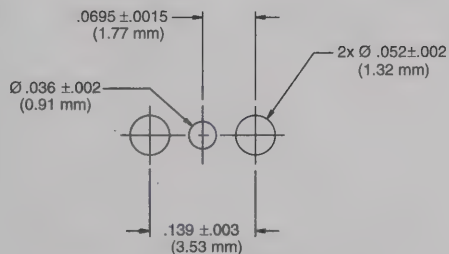
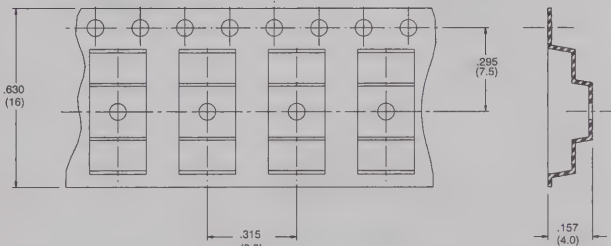


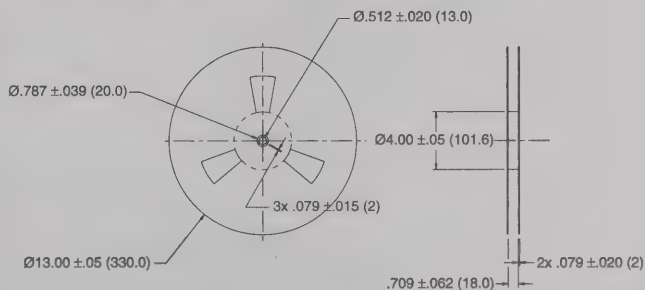
Fig. M2



Tape and Reel Packaging*



Reel Dimensions*



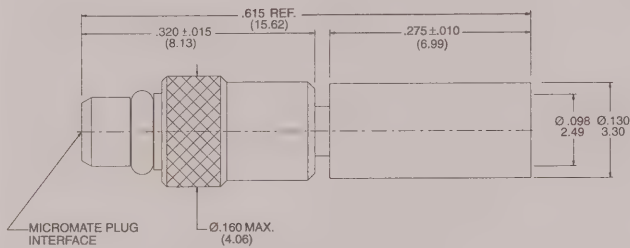
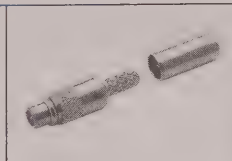
* Blister tape packaged uniformly for edgcard mounting and supplied in accordance with IEC 286-3/EIA 481

MicroMate™ (MMCX) EDGE CARD AND PCB MOUNTS

Description	Plt.	Ins.	Contact	Mtg. Patterns/Page No.	Construction Notes	Amphenol Number	Fig.
R/A Jack, PCB	P11	D1	BeCu	Fig. M1/7	1 Piece Contact	▲908-24100	2
Straight PCB Plug	P11	D1	Brass	Fig. M1/7	Machined	▲908-21103	1

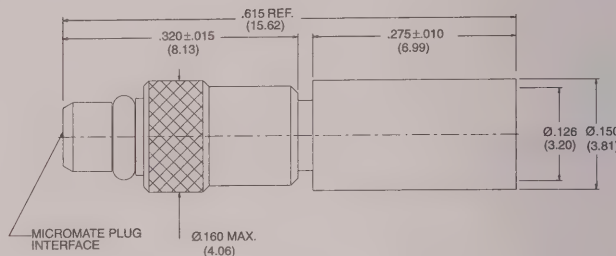
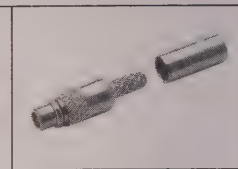
▲ Distributor Stocked

Fig. 1



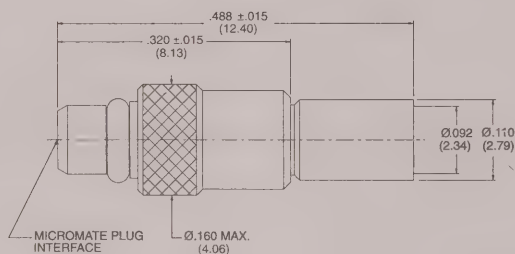
MMCX Straight Plug for RG-178, 196
908-41200▲

Fig. 2



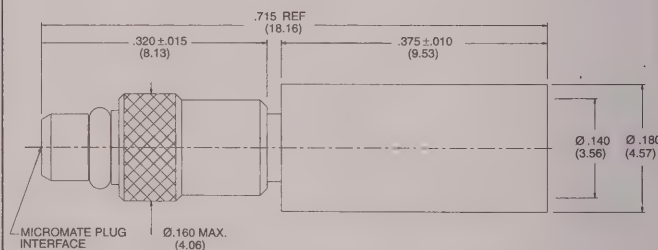
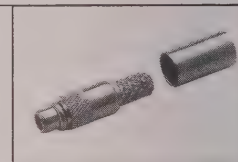
MMCX Straight Plug for RG-174, 188, 316
908-41300▲

Fig. 3



MMCX Straight Plug for .086 Semi-Rigid
908-41400▲

Fig. 4



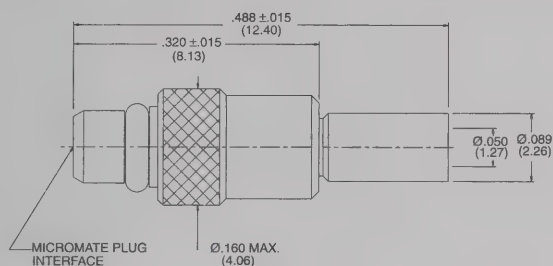
MMCX Straight Plug for RD-316
908-41500▲

MicroMate™ (MMCX) CABLE CONNECTORS

Cable RG-/U	Cable Attachment		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner						
RG-178, 196	Crimp	Solder	Al-1	P11	D1	Captivated Contact	▲ 908-41200	1
RG-174, 188, 316	Crimp	Solder	Al-1	P11	D1	Captivated Contact	▲ 908-41300	2
.086 Semi-Rigid	Solder	Solder	Al-2	P11	D1	Captivated Contact	▲ 908-41400	3
RD-316	Crimp	Solder	Al-1	P11	D1	Captivated Contact	▲ 908-41500	4

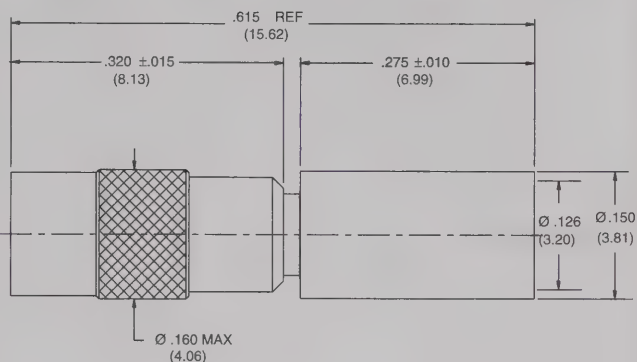
▲ Distributor Stocked

Fig. 1



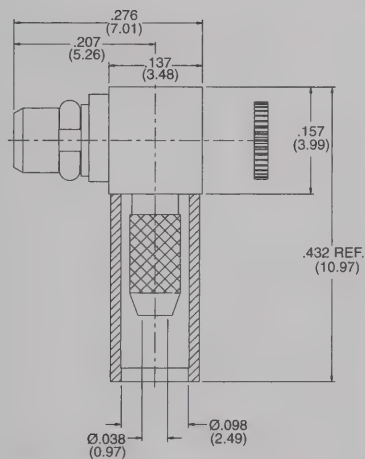
MMCX Straight Plug for .047 Semi-Rigid
908-41600▲

Fig. 2



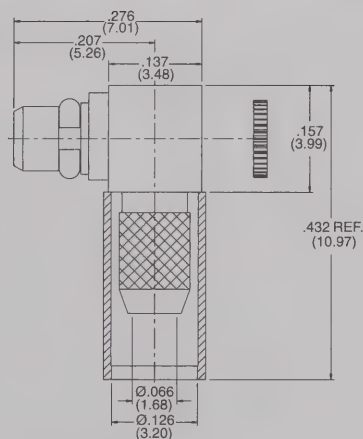
MMCX Straight Jack for RG-174, 188, 316
908-42300▲

Fig. 3



MMCX Right Angle Plug for RG-178, 196
908-43200▲

Fig. 4



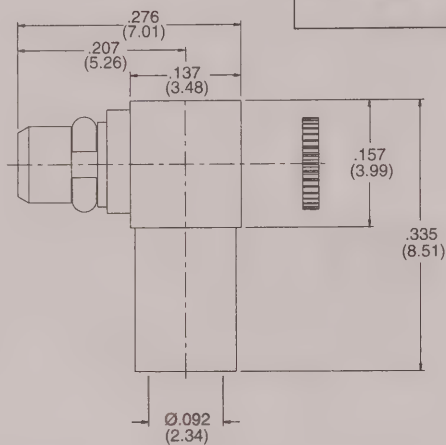
MMCX Right Angle Plug for RG-174, 188, 316
908-43300▲

MicroMate™ (MMCX) CABLE CONNECTORS

Cable RG-/U	Cable Attachment		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner						
.047 Semi-Rigid	Solder	Solder	Al-2	P11	D1	Captivated Contact	▲ 908-41600	1
RG-174, 188, 316	Crimp	Solder	Al-1	P11	D1	Captivated Contact	▲ 908-42300	2
RG-178, 196	Crimp	Solder	Al-3	P11	D1	Captivated Contact	▲ 908-43200	3
RG-174, 188, 316	Crimp	Solder	Al-3	P11	D1	Captivated Contact	▲ 908-43300	4

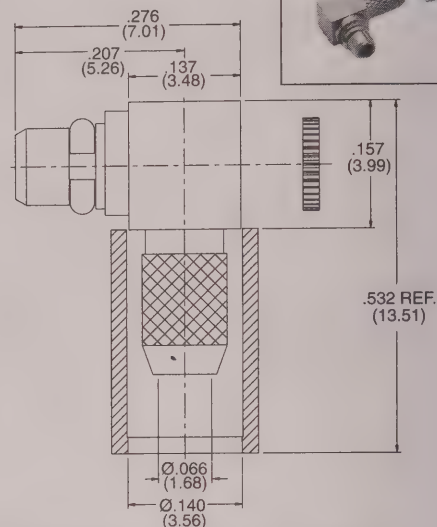
▲ Distributor Stocked

Fig. 1



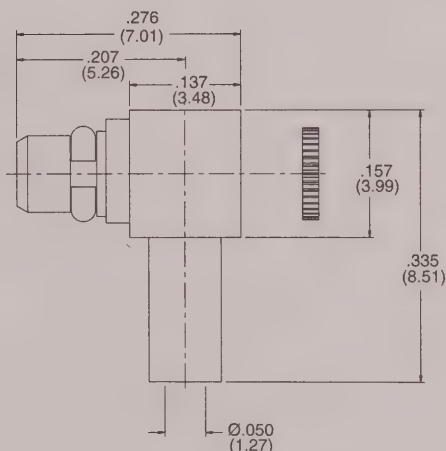
MMCX Right Angle Plug for .086 Semi-Rigid
908-43400▲

Fig. 2



MMCX Right Angle Plug for RD-316
908-43500▲

Fig. 3



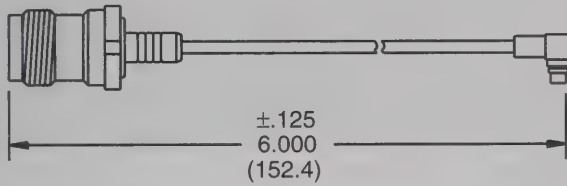
MMCX Right Angle Plug for .047 Semi-Rigid
908-43600▲

MicroMate™ (MMCX) CABLE CONNECTORS

Cable RG-/U	Cable Attachment		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner						
.086 Semi-Rigid	Solder	Solder	Al-4	P11	D1	Captivated Contact	▲ 908-43400	1
RG-316	Crimp	Solder	Al-3	P11	D1	Captivated Contact	▲ 908-43500	2
.047 Semi-Rigid	Solder	Solder	Al-4	P11	D1	Captivated Contact	▲ 908-43600	3

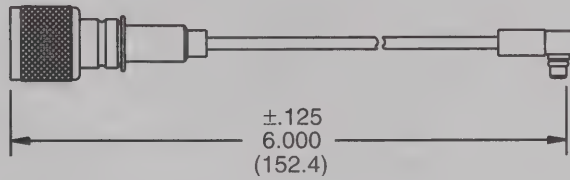
▲ Distributor Stocked

Fig. 1



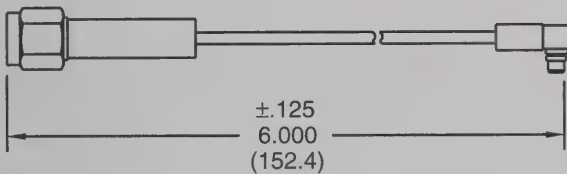
Right Angle MicroMate Plug to RP-TNC Jack
095-680-58000

Fig. 2



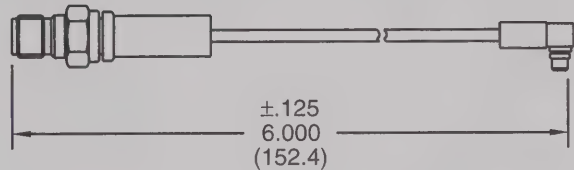
Right Angle MicroMate Plug to Straight Mini-UHF Plug
095-680-68000

Fig. 3



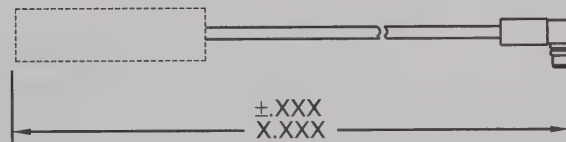
Right Angle MicroMate Plug to SMA Plug
095-680-98000

Fig. 4



Right Angle MicroMate Plug to SMA Jack
095-680-98001

Fig. 5



Right Angle MicroMate Plug to
Customer Specified Connector and Cable
095-680-XXXXX

Notes

Description

Amphenol's 919 Series MCX connectors conform to the European CECC 22220 specification and is 30% smaller than SMB series.

MCX provides broadband capability through 6GHz.

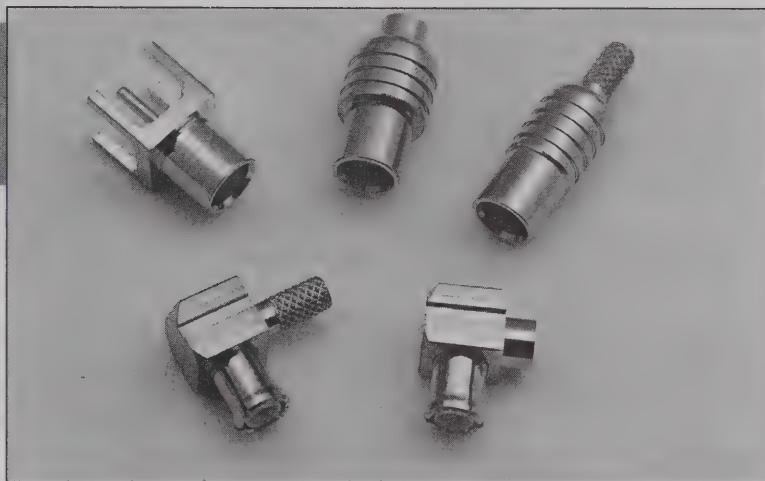
A range of connector configurations is available including printed circuit board and cable connectors. This series gives design engineers options in applications where weight and physical space is limited.

Applications

- Telecommunications
- Instrumentation
- Wireless
- Process Controls
- PC/LAN

Features/Benefits

- Low cost combined with high quality
- Broadband performance with low reflection DC to 6 GHz
- Quick connect/disconnect snap-on mating
- 50 ohm impedance
- Braid crimp cable attachment and solder center pin



MCX Connectors

Specifications	14
Straight & Right Angle Crimp	15
Straight Solder & PCB	16

SPECIFICATIONS

ELECTRICAL

Impedance	50 ohms
Frequency range	0-6 GHz
Voltage rating	335 VRMS
Dielectric withstanding voltage	1000 Volts
VSWR	1.3 at 6GHz (straight) 1.5 at 4GHz (rt. angle)
Contact resistance	Center contact: 5 milliohms; Outer contact: 1.0 milliohms;
Insulation resistance	5000 megohms min.
Insertion loss:	0.10 dB @ 1 GHz

MECHANICAL

Mating	50 ohm snap-on coupling, per CECC 22220
Engagement forces	engagement 4.5 lbs (20N) max. disengagement 2.3 lbs (10N) min.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Connector durability	500 mating and unmating cycles min.

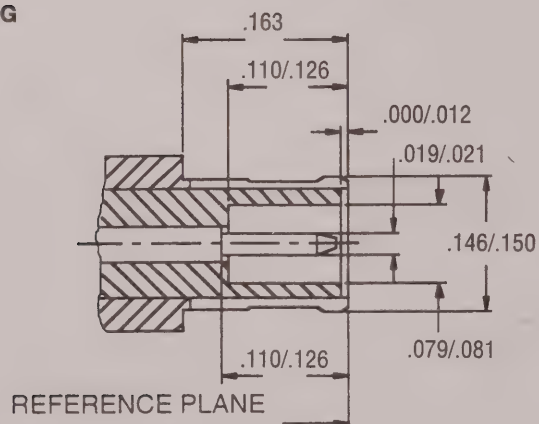
MATERIAL

Body, Metal Parts Finish	Brass per QQB-626 Nickel or Gold
Center contacts gold plated (30 u" gold)	Male: Brass per QQB626 Female: Beryllium copper per QQC 530 heat treated per MIL H 7199
Insulators	PTFE
Gasket	Silicone Rubber
Crimp ferrules	Seamless copper tubing alloy
Finish	Nickel or Gold

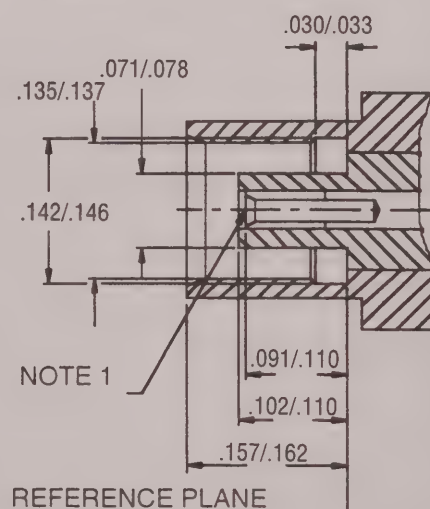
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temperatures @ 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B)
Shock	MIL-STD-202 method 213, snap-on (test cond. B)
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

PLUG



JACK



NOTE:

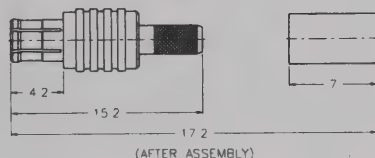
1. I.D. to meet VSWR and contact resistance when mated with .48/.53mm diameter pin

MCX

Crimp Attachments for Flexible Cable

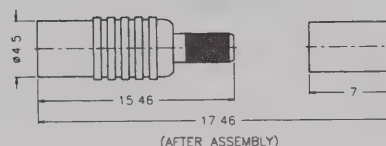
Amphenol®

Fig. 1



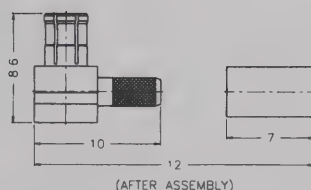
MCX Crimp Plug, Crimp
919-101P-51SX
 Gold Plated for RG-174, 188, 316
919-101P-51S1X
 Nickel Plated for RG-174, 188, 316

Fig. 2



MCX Crimp Jack, Crimp
919-107J-51SX
 Gold Plated for RG-174, 188, 316
919-107J-51S1X
 Nickel Plated for RG-174, 188, 316

Fig. 3



MCX Angle Plug, Crimp
919-104P-51AX
 Gold Plated for RG-174, 188, 316
919-104P-51A1X
 Nickel Plated for RG-174, 188, 316

MCX CABLE CONNECTORS

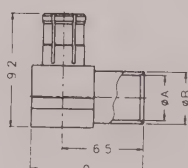
Cable RG-/U	Cable Attachment		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner						
RG-174, 188, 316	Crimp	Solder	Al-10	P11	D1	Gold Plated	919-101P-51SX	1
RG-174, 188, 316	Crimp	Solder	Al-10	P11	D1	Nickel Plated	919-101P-51S1X	1
RG-174, 188, 316	Crimp	Solder	Al-10	P11	D1	Gold Plated	919-107J-51SX	2
RG-174, 188, 316	Crimp	Solder	Al-10	P11	D1	Nickel Plated	919-107J-51S1X	2
RG-174, 188, 316	Crimp	Solder	Al-13	P11	D1	Gold Plated	919-104P-51AX	3
RG-174, 188, 316	Crimp	Solder	Al-13	P11	D1	Nickel Plated	919-104P-51A1X	3

MCX

For Semi-Rigid Cable and PCB

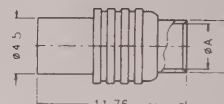
Amphenol®

Fig. 1



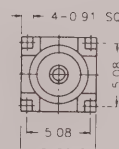
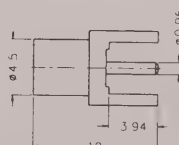
MCX Angle Plug, Solder to Body
919-102P-51AX
 for .085 S/R (2.2mm)
919-103P-51AX
 for .141 S/R (3.6mm)

Fig. 2



MCX Jack, Solder to Body
919-114J-51SX
 for .085 S/R (2.2mm)

Fig. 3



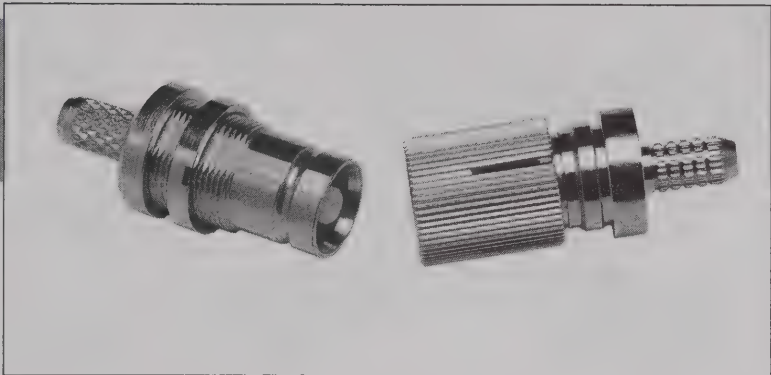
MCX Printed Circuit Receptacle
 Blunt Post Terminal, Four Legs
919-109J-51PX
 .155 (3.9mm) Legs
 Gold Plated

MCX SEMI-RIGID CABLE CONNECTORS

Cable RG-/U	Cable Attachment		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner						
.085 Semi-Rigid	Solder	Solder	AI-12	P11	D1	Gold Plated	919-102P-51AX	1
.141 Semi-Rigid	Solder	Solder	AI-12	P11	D1	Gold Plated	919-103P-51AX	1
.085 Semi-Rigid	Solder	Solder	AI-11.	P11	D1	Gold Plated	919-114J-51SX	2

MCX PCB RECEPTACLES

Description	Terminal Type	Plt.	Ins.	MTG Hole	Construction Notes	Dim. A	Amphenol Numbers	Fig.
PCB Panel Jack Receptacles	Blunt Post	P11	D1	J	Stand Off Pads	.155(3.9)	919-109J-51PX	3



Description

Amphenol 1.0/2.3 coaxial connectors are miniature 50 ohm units with threaded coupling mechanisms which provide positive mating. The compact design of the 1.0/2.3 permits dense connector packing, making these connectors ideally suited to applications where space limitation is a factor.

Application

- Telecommunications
- Switching equipment and routers
- Datacom

Features/Benefits

- Meets DIN 41626, DIN 47297 and NFC 93-571 international specifications.
- Plugs and bulkhead jacks available in push pull types ensuring high reliability and a lower installed cost.
- Mates with DIN 41612 Two-Piece connectors.

1.0/2.3

Specifications	18
Plugs & Receptacles	19

SPECIFICATIONS***ELECTRICAL**

Impedance	50 ohms
Frequency range	0-10 GHz
Voltage rating	350 Volts peak
Other	Contact resistance: Center contact 6 milliohm Outer contact 3 milliohm Insulation resistance: 10000 megohms

ENVIRONMENTAL

Temperature range	- 40°C to +155°C
Connector Durability	500 matings

MECHANICAL

Mating	Snap-On coupling
Cable affixment (braid or jacket)	Hex crimp
Cable affixment (center conductor)	Crimp or solder
Captivated contacts	All crimps

MATERIAL

Contacts	Male: Brass Female: (center and outer) Beryllium copper. Gold plated
Other metal parts	Brass, nickel plated
Insulators	Teflon
Crimp ferrule	Copper

* These characteristics are typical and may not apply to all connectors.

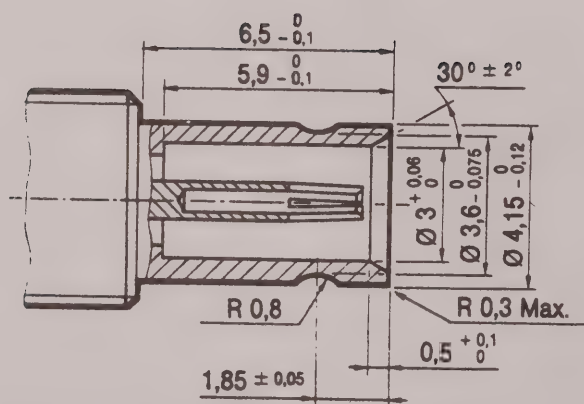
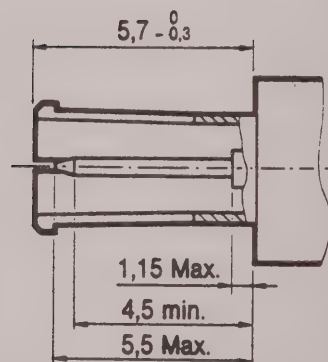
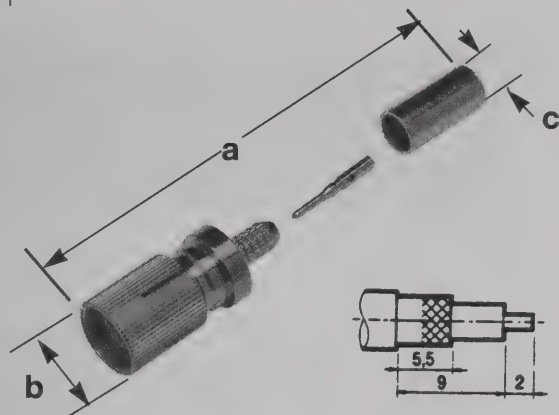
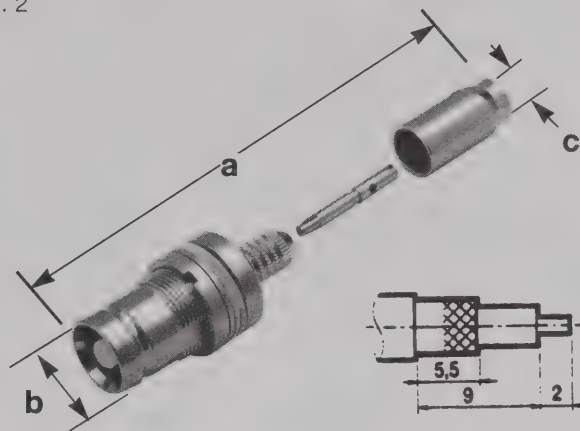
Jack**Plug**

Fig. 1



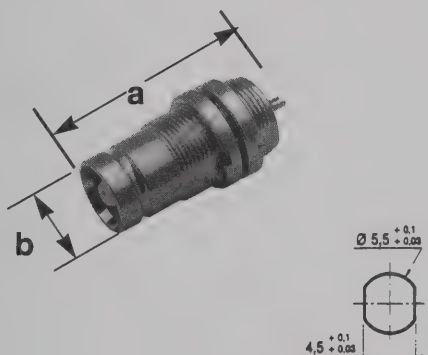
Straight Plugs
102-990-06

Fig. 2



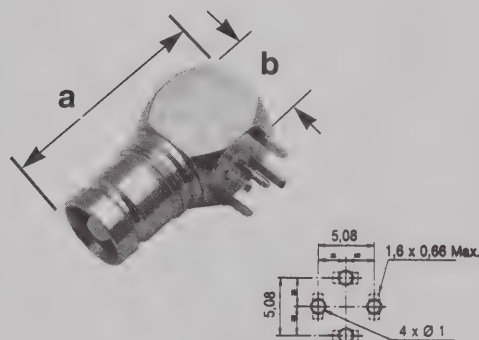
Bulkhead Jacks
102-913-06
102-913-34

Fig. 3



Jack Receptacle
102-911-02

Fig. 4



Printed Circuit Board Jack Receptacle
102-909-01

1.0/2.3 PLUGS, BULKHEAD JACKS, RECEPTACLES

Connector Description	Cable	Cable Attachment		Dimensions, inches (millimeters)			Amphenol Number	Fig.
		Outer	Inner	a	b	c		
Plug	RG 174, 188, 316	Crimp	Solder	1.04 (26.5)	.287 (7.3)	.127 (3.25)	102-990-06	1
Bulkhead Jack	RG 174, 188, 316	Crimp	Solder	.984 (2.5)	.216 (5.5)	.127 (3.25)	102-913-06	2
	L910/19 RG 180	Crimp	Solder	.984 (25)	.216 (5.5)	.161 (4.1)	102-913-34	2
Receptacle	Rear Mount	Solder Cup		.645 (16.4)	.216 (5.5)	—	102-911-02	3
Printed Circuit Receptacle 4 legs & terminal	n/a	Blunt Post		.764 (19.4)	.291 (7.4)	—	102-909-01	4

• Accommodates cable diameter

Notes

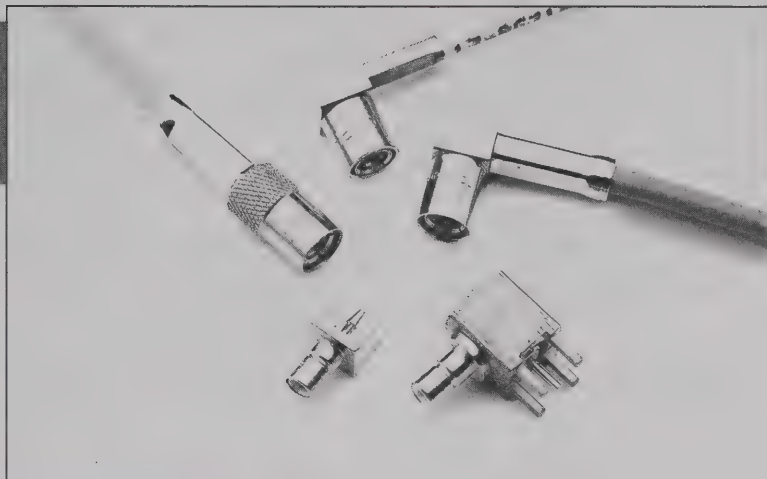
Description

To address the rapid implementation of the U.S. digital cellular PCN infrastructure, Global Positioning Systems (GPS) and Instrumentation and Wireless LAN Systems, Amphenol has optimized its SMB product offering to target these high growth market applications. The growth rate of these emerging markets has fueled an increasing demand for subminiature coaxial connectors with very good electrical performance to 4 GHz.

Amphenol's 903 Series SMB connectors conform to the requirements of MIL-C-39012 and their interface is in compliance with MIL-STD-348. SMB series connectors feature quick connect/disconnect snap-on mating and are available in 50 ohm, 75 ohm and a high density 75 ohm version. This series has broadband performance with low reflection.

Features and Benefits

- Low cost combined with high quality
- Broadband performance with low reflection DC to 4 GHz
- Quick connect/disconnect snap-on mating
- 50 and 75 ohm impedance
- Various plating options
- Braid crimp cable attachment and solder center pin
- Automated assembly and inspection
- Especially designed for subminiature packaging needs where snap-on mating is an advantage
- Conforms to the interface dimensions of MIL-STD-348 and CC22130/131*



Applications

- Telecommunications
- Test and Measurement
- Instrumentation
- Wireless
- Process Controls
- PC/LAN
- Base Stations
- Microwave Components
- Radio Boards
- Video Systems

50 ohm Coaxial Connectors

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PCB Receptacles	27-29

75 ohm Coaxial Connectors

Specifications	30
Plugs, Jacks	31
Receptacles, PCB	32

75 ohm High Density Coaxial Connectors

Specifications	33
Plugs	34
PCB Receptacles	35

50 ohm Coaxial Connectors

ELECTRICAL

Impedance	50 ohms
Frequency range	0-4 GHz with low reflection; usable to 10.0 GHz.
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	750 VRMS RG-196 type 1000 VRMS for RG-188 type
VSWR	RG-196/U series
	straight connectors rt. angle connectors
VSWR	RG-188/U series
	straight connectors rt. angle connectors
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss:	straight connectors
	rt. angle connectors

MATERIAL

Bodies	Brass per QQB-626 or zinc per ASTM B86-71, as specified, nickel (or gold) plated as listed
Center contacts	Female: beryllium copper, gold plated Male: brass or beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE

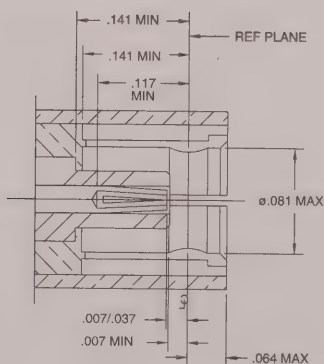
MECHANICAL

Mating	50 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

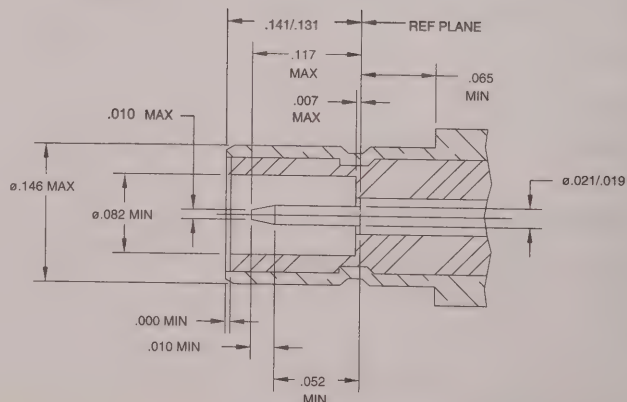
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

PLUG



JACK



SMB

50 ohm Coaxial Connectors

Amphenol®

Fig. 1

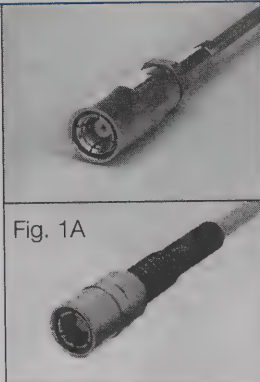
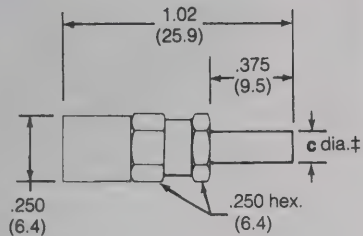
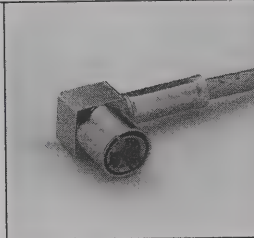
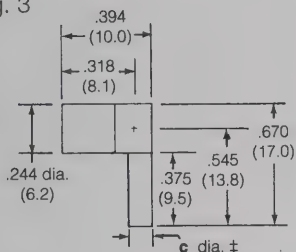


Fig. 1A

50Ω SMB Plugs - Braid Crimp/Solder Female Contact

RG-174,179, 187,188, 316	903-285P-51S	Gold Plated
	903-508P-51S●	Gold Plated
	903-370P-51S▲	Nickel Plated
RG-178,196	903-287P-51S	Gold Plated
	903-509P-51S●	Gold Plated
	903-371P-51S▲	Nickel Plated
Dbl. Br. RG-316	903-401P-51S	Gold Plated

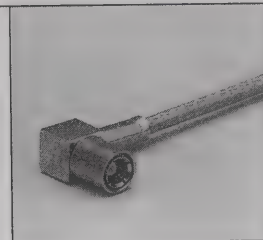
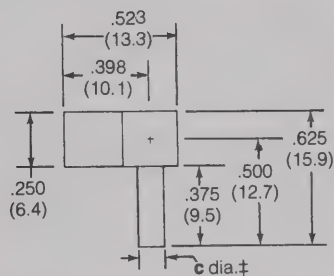
Fig. 3



50Ω SMB Low Profile Angle Plugs, Braid Crimp/Solder Female Contact

RG-174,179, 187,188, 316	903-429P-51A	Gold Plated
--------------------------	---------------------	-------------

Fig. 2



50Ω SMB Angle Plugs - Braid Crimp/Solder Female Contact

RG-174 179, 187, 188, 316	903-289P-51A	Gold Plated
	903-289P-51A2▲*	Gold Plated
	903-367P-51A	Nickel Plated
	903-367P-51A1	Nickel Plt. Body, Gold Plt. Outer Cont.
	903-367P-51A2▲*	Nickel Plated
RG-178, 196	903-291P-51A	Gold Plated
	903-291P-51A1▲*	Gold Plated
	903-368P-51A	Nickel Plated
	903-368P-51A1▲*	Nickel Plated
Dbl. Br. RG-316	903-369P-51A	Nickel Plated
	903-369P-51A2*	Nickel Plated

50 ohm SMB PLUGS & ANGLE PLUGS

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner							
RG-174,179,187, 188,316	Plug	Crimp	Solder	.128(3.3)±	C60	P11	D1	Gold Plated Body	903-285P-51S	1
				.128(3.3)±	C62	P11	D1	Gold Plated Body	● 903-508P-51S	1A
				.128(3.3)±	C60	P15	D1	Nickel Plated Body	▲ 903-370P-51S	1
	Angle Plug	Crimp	Solder	.128(3.3)±	C61	P11	D1	Gold Plated Body	903-289P-51A	2
				.128(3.3)±	C61	P11	D1	Gold Plated Body	●▲* 903-289P-51A2	2
				.128(3.3)±	C61	P15	D1	Nickel Plated Body	903-367P-51A	2
				.128(3.3)±	C61	P15	D1	Nickel Plated Body	●▲* 903-367P-51A2	2
				.128(3.3)±	C61	P15	D1	Nickel Plated Body ★	903-367P-51A1	2
				.128(3.3)±	C61	P15	D1	Nickel Plated Body ★	903-429P-51A	3
	Low Profile Angle Plug	Crimp	Solder	.128(3.3)±	C61	P26	D1	Nickel Plated Body ★	903-287P-51S	1
RG-178,196	Plug	Crimp	Solder	.100(2.5)±	C60	P11	D1	Gold Plated Body	● 903-509P-51S	1A
				.100(2.5)±	C62	P11	D1	Gold Plated Body	▲ 903-371P-51S	1
				.100(2.5)±	C60	P15	D1	Nickel Plated Body	903-291P-51A	2
	Angle Plug	Crimp	Solder	.100(2.5)±	C61	P11	D1	Gold Plated Body	●▲* 903-291P-51A1	2
				.100(2.5)±	C61	P11	D1	Gold Plated Body	903-368P-51A	2
				.100(2.5)±	C61	P15	D1	Nickel Plated Body	●▲* 903-368P-51A1	2
				.100(2.5)±	C61	P15	D1	Nickel Plated Body	●▲* 903-368P-51A1	2
				.100(2.5)±	C61	P15	D1	Nickel Plated Body	903-369P-51A	2
Dbl. Braid 316	Angle Plug	Crimp	Solder	.142(3.6)±	C61	P22	D1	Nickel Plated Body	● * 903-369P-51A2	2
				.142(3.6)±	C61	P15	D1	Nickel Plated Body	903-401P-51S	1
	Plug	Crimp	Solder	.142(3.6)±	C60	P11	D1	Gold Plated Body		

‡ i.d. of outer crimp ferrule

★ Gold plated outer contact

▲ Distributor stocked

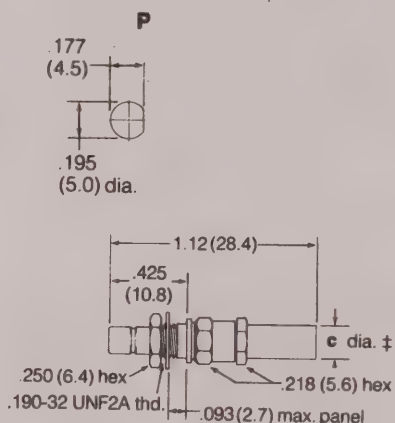
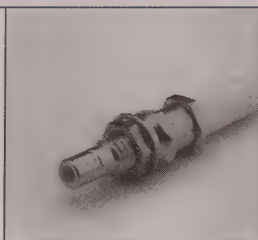
* Diecast outer body

● Commercial grade

SMB 50 ohm Coaxial Connectors

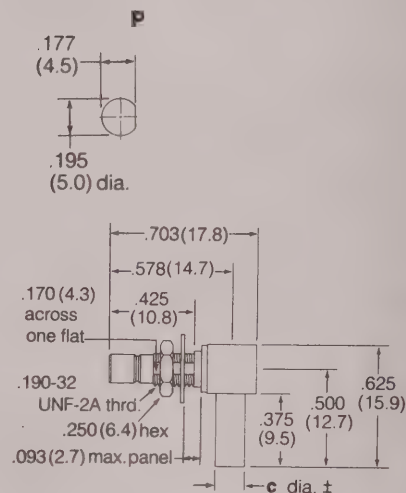
Amphenol®

Fig. 1



50Ω SMB Bulkhead Jacks
Braid Crimp/Solder Male Contact

Fig. 2



50Ω SMB Angle Bulkhead Jacks
Braid Crimp/Solder Male Contact

RG-174,179, 187,188, 316	903-505J-51S ▲● Gold Plated	RG-174,179, 187,188, 316	903-422J-51A Gold Plated
Dbl. Shield 316	903-505J-51S1 ▲● Gold Plated	Dbl. Shield 316	903-422J-51A2 Gold Plated

50 ohm SMB BULKHEAD & ANGLE BULKHEAD JACKS

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	MTG Hole	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner								
RG-174,179,187, 188,316	Bulkhead Jack	Crimp	Solder	.128(3.3)±	P	C60	P15	D1	Gold Plated Body	▲● 903-505J-51S	1
	Angle Bulkhead Jack	Crimp	Solder	.128(3.3)±	P	C61	P11	D1	Gold plated Body	903-422J-51A	2
Dbl. Shield 316	Bulkhead Jack	Crimp	Solder	.142(3.6)±	P	C60	P15	D1	Gold Plated Body	▲● 903-505J-51S1	1
	Bulkhead Jack	Crimp	Solder	.142(3.6)±	P	C61	P15	D1	Gold Plated Body	903-422J-51A2	2

▲ Distributor stocked

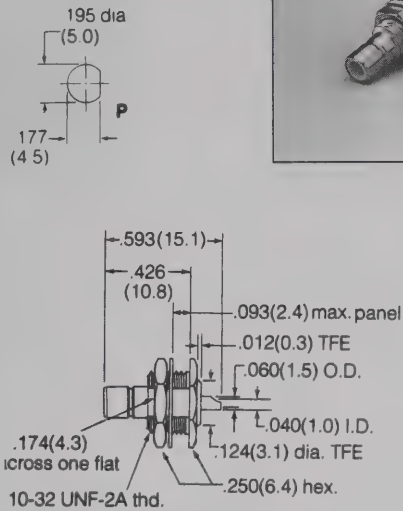
● Commercial grade

SMB

50 ohm Bulkhead Receptacles

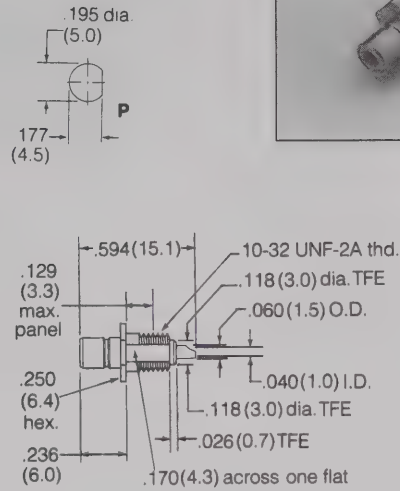
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Fig. 1



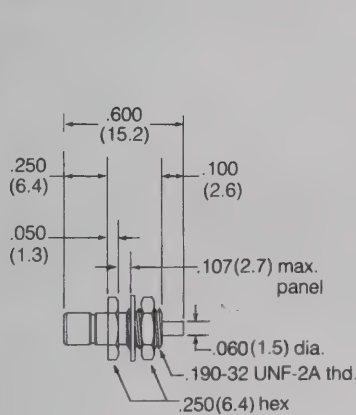
SMB Bulkhead Receptacle-Rear Mount
Male Contact/Solder Cup Terminal
903-305J-51R Gold Plated

Fig. 2

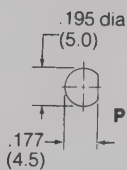


SMB Bulkhead Receptacle-Front Mount
Male Contact/Solder Cup Terminal
903-406J-51R ▲□ Gold Plated

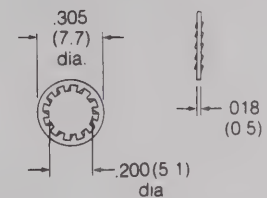
Fig. 3



SMB Bulkhead Receptacle
Front Mount
Male Contact/Post Terminal
903-402J-51R ●▲□ Gold Plated



Jam Nut for SMB Receptacles
903-10408-1 Gold Plated
903-10408-2 Nickel Plated



Lockwasher for SMB Receptacles
903-10409-1 Gold Plated
903-10409-2 Nickel Plated

50 ohm SMB BULKHEAD JACK RECEPTACLES & ACCESSORIES – captive male contacts

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
Bulkhead Jack Receptacle, Rear Mount	Solder Cup	P	P9	D1	Gold Plated Body	903-305J-51R	1
Bulkhead Jack Receptacle, Front Mount	Solder Cup	P	P11	D1	Gold Plated Body	▲□ 903-406J-51R	2
Bulkhead Jack Receptacle, Front Mount	Blunt Post	P	P9	D1	Gold Plated Body	●▲□ 903-402J-51R	3
Jam Nut	—	—	—	—	See Fig. 3	903-10408-1, -2	3
Lockwasher	—	—	—	—	See Fig. 3	903-10409-1, -2	3

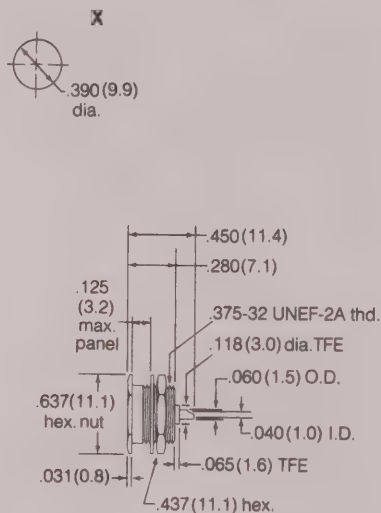
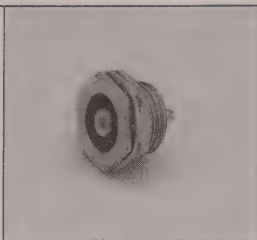
▲ Distributor stocked □ Jam Nut and Lockwasher sold separately. ● Commercial grade

SMB

50 ohm Bulkhead Receptacles

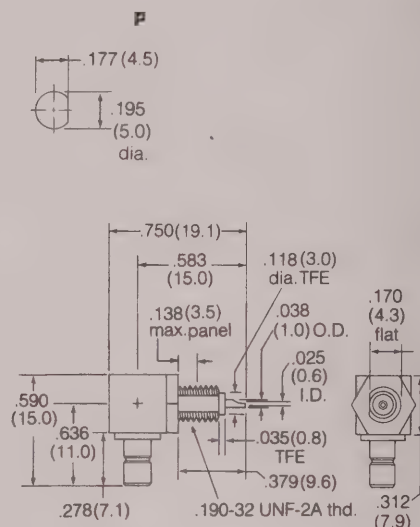
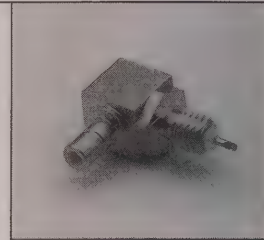
Amphenol®

Fig. 1



SMB Recessed Bulkhead Jack Receptacle
Front Mount/Male Contact/Solder Cup Terminal
903-407J-51R Gold Plated

Fig. 2



SMB Angle Bulkhead Jack Receptacle
Front Mount/Male Contact/Solder Cup Terminal
903-416J-51 ▲□ Gold Plated

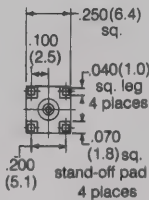
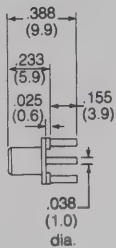
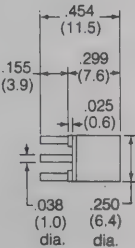
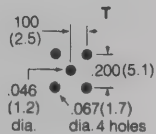
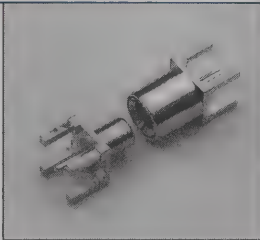
50 ohm SMB BULKHEAD JACK RECEPTACLES – captive male contacts

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
Recessed Bulkhead Jack Receptacle, Front Mount	Solder Cup	X	P11	D1	Gold Plated Body	903-407J-51R	1
Angle Bulkhead Jack Receptacle, Front Mount	Solder Cup	P	P11	D1	Gold Plated Body	▲□ 903-416J-51R	2

▲ Distributor stocked

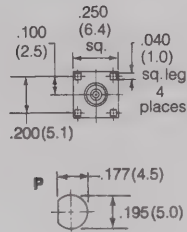
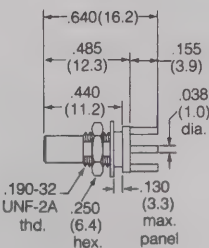
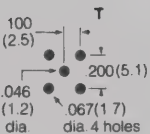
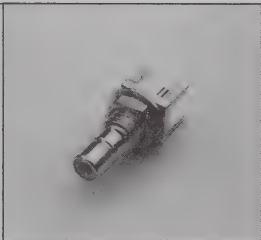
□ Jam Nut and Lockwasher sold separately

Fig. 1



SMB PCB Slide-on Board-to-Board Interconnect for .360"(9mm) Bd. Spacing
Plug: **903-410P-53P** Gold Plated
Jack: **903-409J-53P** Gold Plated

Fig. 2



SMB PCB Bulkhead Jack Receptacle Male Contact/Post Terminal/Four Legs
903-375J-53P Nickel Plated

50 ohm SMB BULKHEAD JACK AND PRINTED CIRCUIT RECEPTACLES – captive male contacts

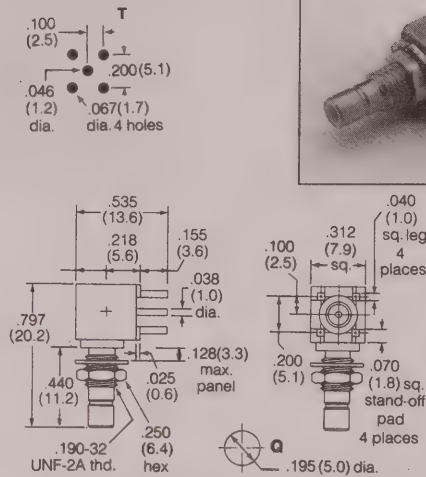
Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
PCB Slide-on Board-to-Board Interconnect for .360"(9mm) Bd. Spacing/Four Legs	Blunt Post	T	P9	D1	Plug/Gold Plated	903-410P-53P	1
					Jack/Gold Plated	903-409J-53P	
PCB Bulkhead Jack Receptacle/,Four Legs	Blunt Post	T/P	P6	D1	Nickel Body/No Stand-off Pads	903-375J-53P	2

SMB

50 ohm PCB Receptacles

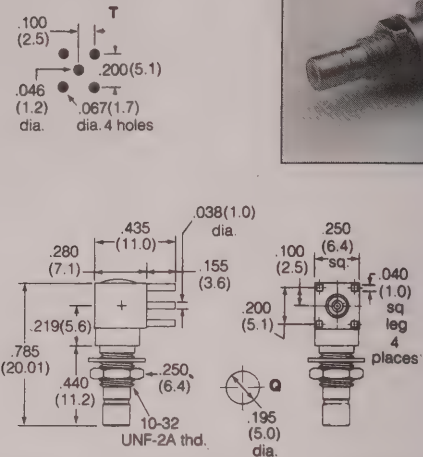
Amphenol®

Fig. 1



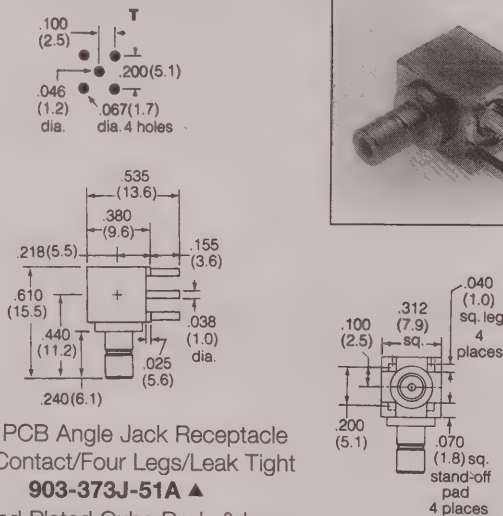
SMB PCB Angle Bulkhead Receptacle
Male Contact/Four Legs/Leak Tight
903-413J-51A
Tin Lead Plated Cube Body & Legs,
Gold Plated Interface & Contact

Fig. 2



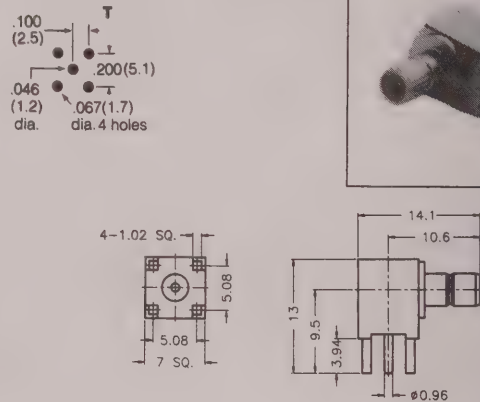
SMB PCB Angle Bulkhead Receptacle
Male Contact/Four Legs/No Stand-off Pads
903-376J-51A
Tin Lead Plated Cube Body & Legs,
Gold Plated Interface & Contact

Fig. 3



SMB PCB Angle Jack Receptacle
Male Contact/Four Legs/Leak Tight
903-373J-51A ▲
Tin Lead Plated Cube Body & Legs,
Gold Plated Interface & Contact

Fig. 4



SMB PCB Angle Jack Receptacle
903-507J-51P ●
Gold Plated Interface, Body & Contact

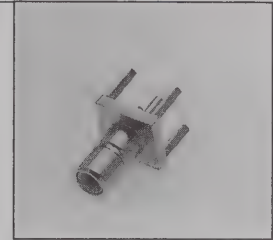
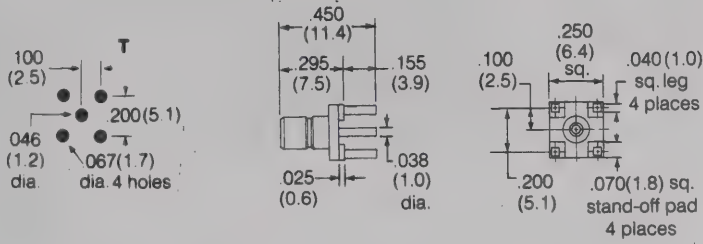
50 ohm SMB BULKHEAD JACK AND PRINTED CIRCUIT RECEPTACLES – captive male contacts

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
PCB Angle Bulkhead Jack Receptacle, Four Legs/Leak Tight	Blunt Post	T/Q	P16	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Contact	903-413J-51A	1
PCB Angle Bulkhead Jack Receptacle, Four Legs/No Stand-off Pads	Blunt Post	T/Q	P16	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Contact	903-376J-51A	2
PCB Angle Jack Receptacle Four Legs/Leak Tight	Blunt Post	T	P16	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Contact	▲ 903-373J-51A	3
PCB Angle Jack Receptacle Four Legs/Stand off Pads	Blunt Post	T	P11	D1	Gold Plt., Body, Contacts & Legs	● 903-507J-51P	4

▲ Distributor stocked

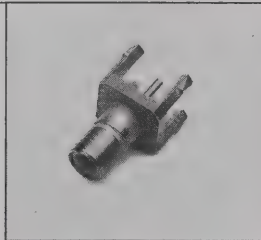
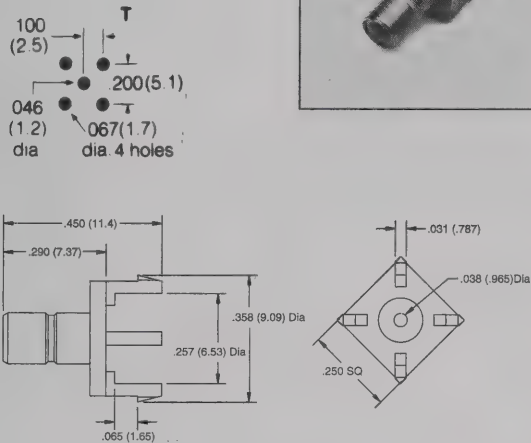
● Commercial grade

Fig. 1



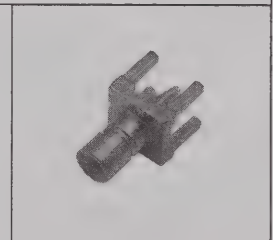
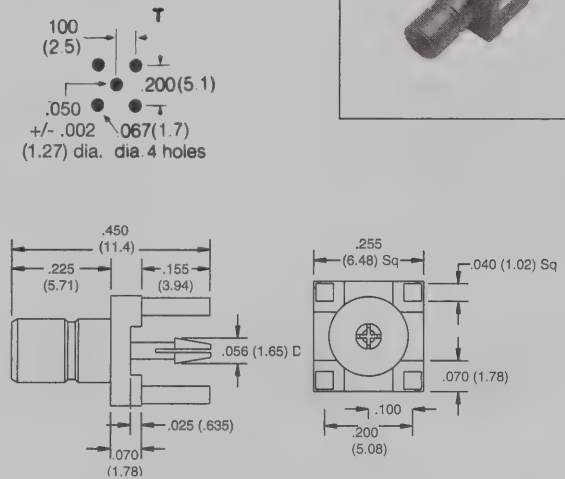
SMB PCB Receptacle Jack
Post Terminal/Four Legs
903-415J-51P Gold Plated
903-499J-51P3* Tin Plated Body & Legs
903-499J-51P2▲* Gold Plated

Fig. 2



SMB PCB Jack Receptacle
Board Lock
903-515J-51P Tin Lead Plt Body, Gold Plated Contact

Fig. 3



SMB PCB Receptacle Jack
Board Lock
903-499J-51P▲* Gold Plated
903-499J-51P1* Nickel Plated

50 ohm SMB PRINTED CIRCUIT RECEPTACLES

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
PCB Jack Receptacle/Four Legs	Blunt Post	T	P11	D1	Gold Plated Body	903-415J-51P	1
			P6		Gold Plated Body	▲* 903-499J-51P2	
			P6		Tin Plated Body, Gold Plt. contact	* 903-499J-51P3	
PCB Bulkhead Jack Receptacle	Board Lock	T	P11	D1	Gold Plated Body	▲* 903-499J-51P	3
PCB Bulkhead Jack Receptacle	Board Lock	T	P11	D1	Nickel Plated Body	* 903-499J-51P1	
PCB Bulkhead Jack Receptacle/Four Legs	Blunt Post	T	P9	D1	Tin Lead Plt Body, Gold Plt. contact	903-515J-51P	

▲ Distributor stocked * Die cast outer body

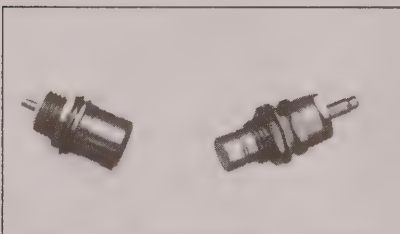
75 ohm Coaxial Connectors

Amphenol standard 75 ohm SMB 903 series connectors are constructed in accordance with the requirements of MIL-C-39012 and their interface is in compliance with MIL-STD-348. These subminiature units feature positive lock mating as well as snap-on mating faces.

They are available in a variety of configurations and styles. This series has broadband performance with low reflection.

MATERIAL

Bodies	Brass per QQB-626, as specified, nickel (or gold) plated as listed
Center contacts	Female: beryllium copper, gold plated Male: brass or beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE



SPECIFICATIONS*

ELECTRICAL

Impedance	75 ohms
Frequency range	0-4 GHz with low reflection; usable to 10.0 GHz.
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	1,000 VRMS
RF high potential withstanding voltage	RG-195/U series 500 VRMS
Corona level	RG-195/U series 400 min. volts @ 70K ft.
VSWR straight connectors	RG-196/U series 1.30 + .04 f (GHz) RG-188/U series 1.25 + .04 f (GHz)
right angle connectors	RG-196/U series 1.45 + .06 f (GHz) RG-188/U series 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance:	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight	0.30 dB @ 1.5 GHz
right angle	0.60 dB @ 1.5 GHz

* These characteristics are typical and may not apply to all connectors.

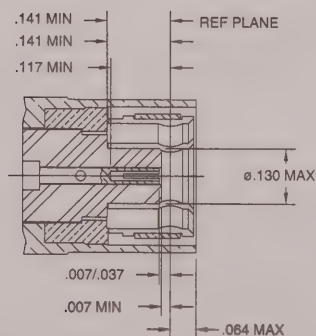
This series is also called SMZ.

MECHANICAL

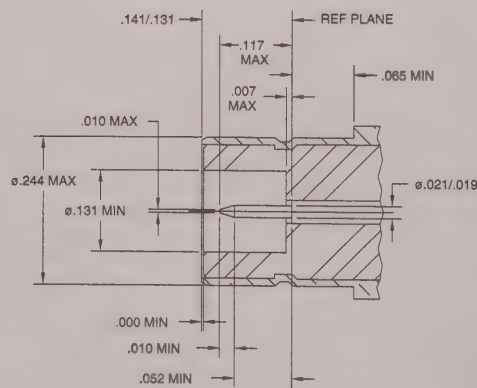
Mating	75 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.



PLUG



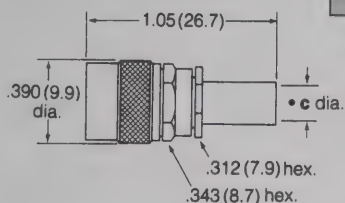
JACK

SMB

75 ohm Coaxial Connectors

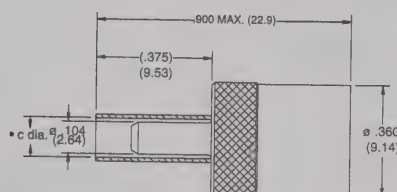
Amphenol®

Fig. 1



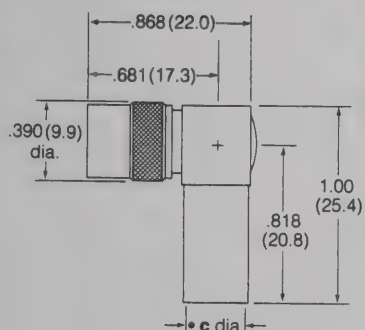
75Ω SMB Plug
Braid Crimp/Solder Female Contact
903-152P-71S Positive Lock for RG-180, 195
Gold Plated Body, Nickel Plt. Cpl. Ring
903-152P-71S3 Positive Lock for RG-179
Gold Plated Body, Nickel Plt. Cpl. Ring

Fig. 2



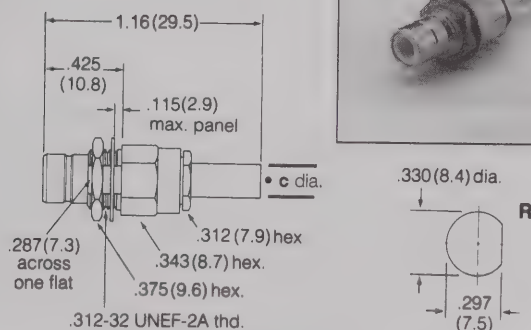
75Ω SMB Plug
Braid Crimp/Solder Female Contact/Gold Plt.
903-502P-71S for RG-179, Nickel Plated Body

Fig. 3



75Ω SMB Angle Plug
Braid Crimp/Solder Female Contact
903-495P-71A Positive Lock for Amphenol 621-4460-75,
Gold Plated Body, Nickel Plt. Cpl. Ring

Fig. 4



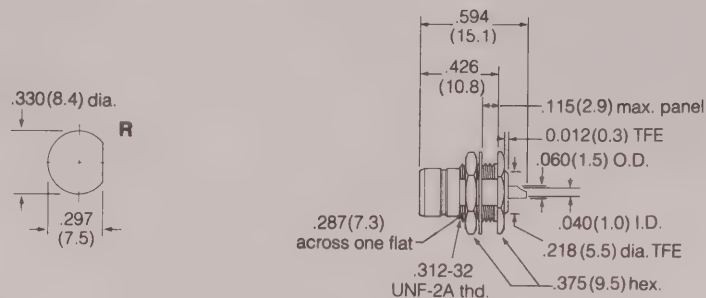
75Ω SMB Bulkhead Jack
Braid Crimp/Solder
Male Contact/Gold Plated
903-108J-71S for RG-179

75 ohm SMB PLUGS, ANGLE PLUGS & BULKHEAD JACKS

Cable RG-/U	Connector Description	Cable Attachment		c Dia In. (mm)	MTG Hole	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner								
RG-179	Bulkhead Jack	Crimp	Solder	.128(3.3)±	R	C60	P9	D1	Gold Plated Body	903-108J-71S	4
	Plug (Positive Lock)	Crimp	Solder	.128 (3.3)	—	C60	P9	D1	Nickel Plt coupling Ring	903-152P-71S3	1
RG-174, 179, 187, 188, 316	Plug	Crimp	Solder	.128(3.3)±	—	C60	PCF	D1	Nickel Plated Body Nickel Plt Coupling Ring	903-502P-71S	2
RG-180, 195	Plug (Positive Lock)	Crimp	Solder	.180(4.6)±	—	C60	PCF	D1	Gold Plated Body Nickel Plt Coupling Ring	903-152P-71S	1
Amphenol 621-4460-75	Angle Plug (Positive Lock)	Crimp	Solder	.300(7.6)±	—	C61	PCF	D1	Gold Plated Body	903-495P-71A	3

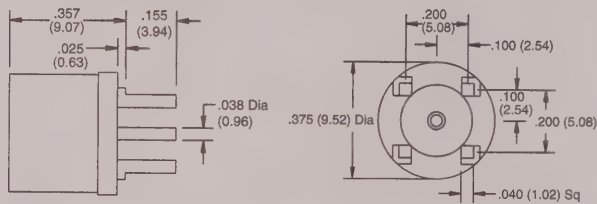
± i.d. of outer crimp ferrule

Fig. 1



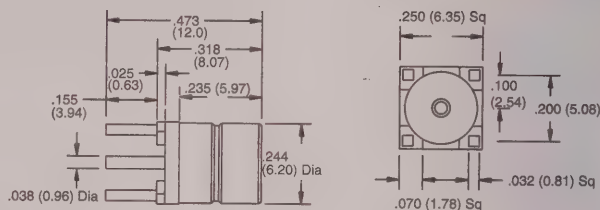
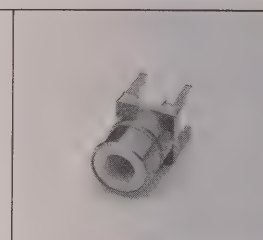
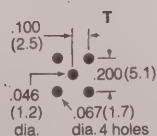
75Ω SMB Bulkhead Receptacle/Rear Mount
Male Contact/Solder Cup Terminal
903-382J-71R Gold Plated

Fig. 2



75Ω SMB PCB Plug Receptacle
Female Contact/Four Legs
903-522P-71P Gold Plated

Fig. 3



75Ω SMB PCB Jack Receptacle
Male Contact/Four Legs
903-523J-71P Gold Plated

75 ohm SMB BULKHEAD & PRINTED CIRCUIT BOARD RECEPTACLES

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
Bulkhead Jack Receptacle, Rear Mount	Solder Cup	R	P11	D1	Gold Plated/Captive Contact	903-382J-71R	1
PCB Plug Receptacle/Four Legs	Blunt Post	T	P11	D1	Gold Plated/Captive Contact	903-522P-71P	2
PCB Jack Receptacle/Four Legs	Blunt Post	T	P11	D1	Gold Plated/Captive Contact	903-523J-71P	3

75 ohm High Density Coaxial Connectors

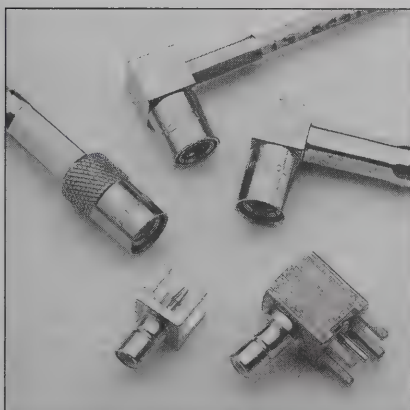
Amphenol high density 75 ohm 903 Series SMB connectors conform to the requirements of MIL-C-39012 and the interface is in compliance with MIL-STD-348.

Broadband capability through 4 GHz combines with compact, space saving design.

Amphenol's high density 75 ohm 903 Series SMB can easily be identified by their red Teflon insulators. Other features include guided entry sleeve for positive mating and closed entry contact to prevent "slide-by".

A full range of high density SMB connector configurations is available, including end launch, printed circuit board and cable connectors.

This series gives design engineers options in applications where physical space is limited.



SPECIFICATIONS*

ELECTRICAL

Impedance	75 ohms
Frequency range	0-4 GHz with low reflection
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	750 VRMS, RG-196 type 1000 VRMS, RG-188 type
VSWR straight right angle connectors	735A type 1.25 + .04 f (GHz) 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance:	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight rt. angle	0.30 dB @ 1.5 GHz 0.60 dB @ 1.5 GHz

MATERIAL

Bodies	Brass per QQB-626 or zinc per ASTM B86-71, as specified, nickel (or gold) plated as listed
Center contacts	beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE - Red for I.D.

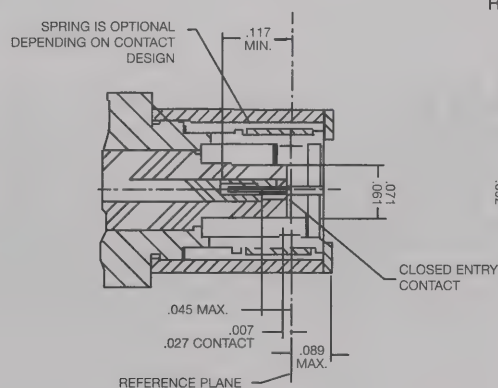
MECHANICAL

Mating	75 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder or crimp
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

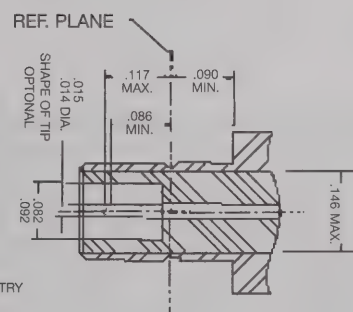
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

* These characteristics are typical and may not apply to all connectors.



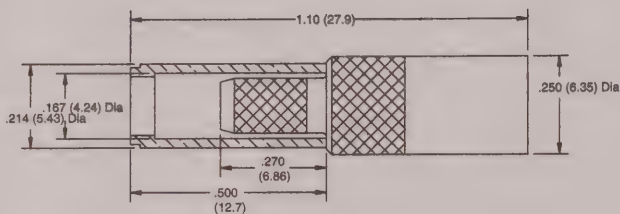
PLUG



JACK

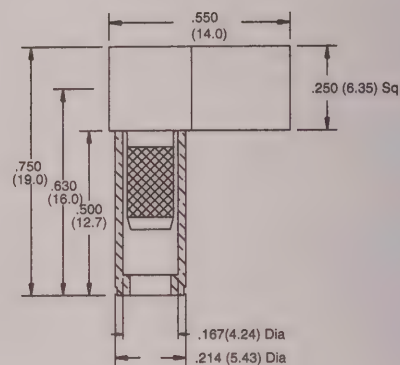
75 ohm High Density Coaxial Connectors

Fig. 1



75Ω SMB Plug
903-516P-71S for Type 735A
903-536P-71S for RG-179
 Nickel Plated, Gold Plated Contact

Fig. 2



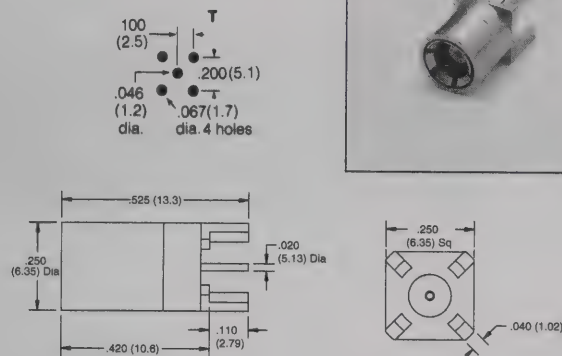
75Ω SMB Angle Plug
903-517P-71A for Type 735A
903-535P-71A for RG-179
 Nickel Plated, Gold Plated Contact

75 ohm SMB PLUGS & ANGLE PLUGS

Cable RG-/U	Connector Description	Cable Attachment		c Dia In. (mm)	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner							
179	Plug	Crimp	Solder	.167(4.24)	C60	PCF	D32	Nickel Plated Body	903-536P-71S	1
179	Angle Plug	Crimp	Solder	.167(4.24)	C61	PCF	D32	Nickel Plated Body	903-535P-71A	2
735A Type	Plug	Crimp	Solder	.167(4.24)	C60	PCF	D32	Nickel Plated Body	903-516P-71S	1
735A Type	Angle Plug	Crimp	Solder	.167(4.24)	C61	PCF	D32	Nickel Plated Body	903-517P-71A	2

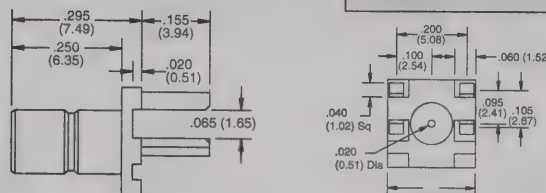
75 ohm High Density Coaxial Connectors

Fig. 1



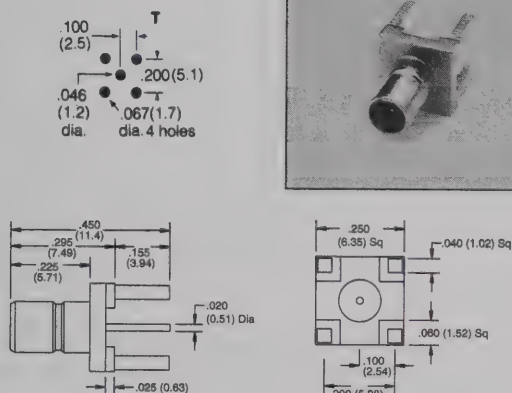
75Ω SMB PCB Slide-on Plug Receptacle
Female Contact/Blunt Post Terminal
903-524P-71P Gold Plated
TFE Fluorocarbon, Red Insulator
Gold Plated Contact

Fig. 2



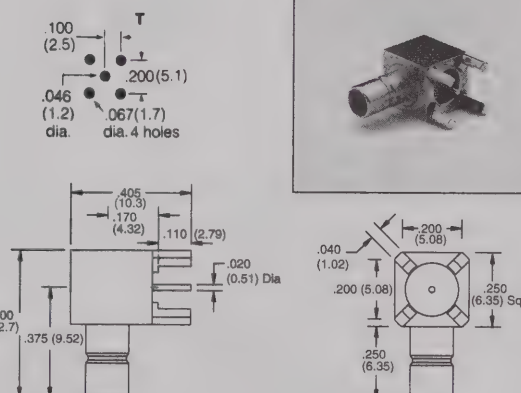
75Ω SMB PCB End Mount Jack Receptacle
Male Contact/Blunt Post Terminal
903-518J-71P Gold Plated
TFE Fluorocarbon, Red Insulator
Gold Plated Contact

Fig. 3



75Ω SMB PCB Jack Receptacle
Male Contact/Blunt Post Terminal
903-512J-71P Gold Plated
TFE Fluorocarbon, Red Insulator
Gold Plated Contact

Fig. 4



75Ω SMB PCB Angle Jack Receptacle
Male Contact/Blunt Post Terminal
903-519J-71P Gold Plated Body
TFE Fluorocarbon, Red Insulator
Gold Plated Contact

75 ohm SMB PRINTED CIRCUIT BOARD RECEPTACLES

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
PCB Slide-on Plug Receptacle/Four Legs	Blunt Post	T	PCF	D32	Gold Plt. Body/Red TFE Ins.	903-524P-71P	1
PCB End mount Jack Receptacle/Four Legs	Blunt Post	—	PCF	D32	Gold Plt. Body/Red TFE Ins.	903-518J-71P	2
PCB Jack Receptacle/Four Legs	Blunt Post	T	PCF	D32	Gold Plt. Body/Red TFE Ins.	903-512J-71P	3
PCB Angle Jack Receptacle/Four Legs	Blunt Post	T	PCF	D32	Gold Plt. Body/Red TFE Ins.	903-519J-71P	4

Notes

Description

Amphenol 901 series 50 ohm SMA connectors are semi-precision, subminiature units which provide excellent electrical performance from DC to 18 GHz. These high performance connectors are compact in size and mechanically have outstanding durability.

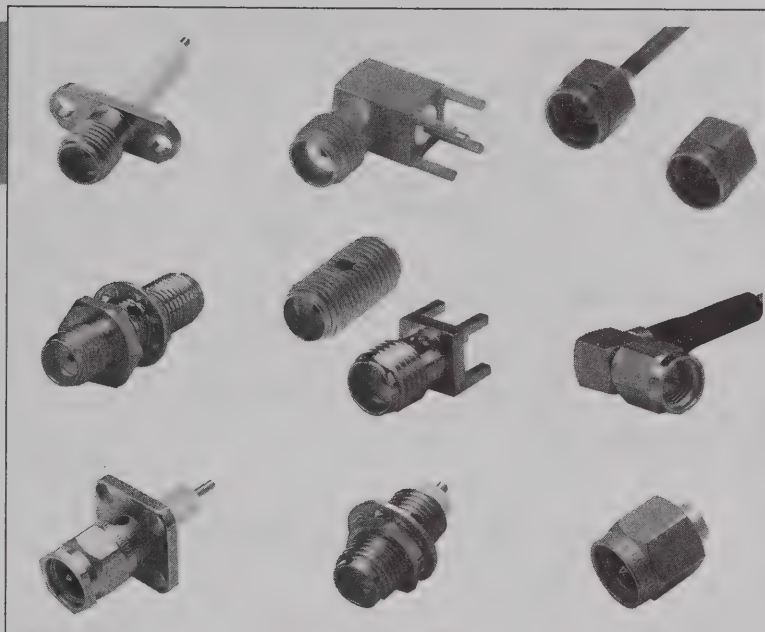
Amphenol SMA connectors are built in accordance with MIL-C-39012 and CECC 22110/111. They can be mated with all connectors which meet these spec mating diameters regardless of manufacturer.

Amphenol SMA designs are available for .085" and .141" diameter semi-rigid cables as well as all the standard flexible cables including double shielded RG-316.

SMA connectors are adaptable to interconnection requirements of both systems and components. Amphenol offers a wide variety of cable connectors, receptacles, feed thrus, stripline launchers, and precision adapters to allow for interfacing with other connector series.

Features/Benefits

- Commercial Grade (Brass SMA) available
- Various cable groups including double shielded 316
- Built in accordance with MIL-C-39012 and CECC 22110/111
- Gold or stainless steel passivated finish available



Applications

- Telecommunication
- Instrumentation
- Wireless
- Process Controls
- PC/LAN
- Base Stations
- Microwave Components (power splitters and combiners, filters, amplifiers)

Stainless Steel

Specifications	38-39
Plugs	40-43
Jacks	44-45
Receptacles	46-54
In-Series Adapters	55-56

Brass

Specifications	57
Plugs, Jacks	58-59
Receptacles	60-63

Phase Adjustable Connectors

Specifications	64
Plugs and Adapters	65

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	.141" & .085" O.D. copper jacket semi- rigid cable. 0-18GHz. Flexible cables: 0-12.4 GHz.
Voltage rating	RG-55, 58, 141, 142, 223, 303: 500 volts peak RG-122, 174, 188, 316, 375 volts peak
Dielectric withstanding voltage	.141" & RG-58 group: 1,000 VRMS. .085" & RG-316 group: 750 VRMS.
VSWR (straight connectors)	.141" O.D. copper jacket cable: 1.05 + .005 f (GHz) RG-55 group: 1.15 + .011 f (GHz) RG-122 group: 1.15 + .02 f (GHz) RG-178 group: 1.20 + .025 f (GHz)
(angle connectors)	.141" O.D. copper jacket cable: 1.10 + .01 f (GHz) RG-55 group: 1.15 + .02 f (GHz) RG-122 group: 1.15 + .03 f (GHz) RG-178 group: 1.20 + .03 f (GHz)
Contact resistance	Center: 2.0 milliohms Body: 2.0 milliohms Braid to body: 0.5 milliohms
Insulation resistance:	5000 megohms
RF leakage	-60 dB minimum
Insertion loss:	.03 \sqrt{f} (GHz) dB max.

ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-Std. 202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-Std. 202 method 204 (test cond. D)
Shock	MIL-Std. 202 method 213 (test cond. I) No discontinuity permitted.
Corrosion	MIL-Std. 202 method 101 (test cond. B) 5% salt solution.
Moisture resistance	MIL-Std. 202 method 106, except step 7b (vibration) omitted, and high humidity measurements do not apply.
Weatherproofing	Crimp type: heat shrink tubing Solder type: silicone rubber gaskets
Altitude	MIL-Std. 202 method 105 (test cond. C), no corona at 70,000 ft. .141" & RG-55 group: 250 VRMS. .085" & RG-122 group: 190 VRMS.

MATERIAL

Bodies, coupling nuts, other metal parts (except as noted)	Non-magnetic stainless steel per QQ-S-764, Type 303.
Contacts	Beryllium copper per QQ-C-530, heat treated per MIL-H-7199.
Plating: Center contacts.	.00005" min. gold per MIL-G-45204, type 1, grade C. Gold over nickel unless otherwise requested.
Plating: Other metal parts	Gold plated or passivated to meet the finish and corrosion requirements of MIL-C- 39012.
Insulators	TFE fluorocarbon per ASTM D1457.
Gaskets	Silicone rubber, per MIL-R-5847 and ZZ-R- 765, class IIB, grade 65-75.
Lockwashers	Stainless steel, internal- tooth supplied with all bulkhead mounted connectors.
Crimp ferrules	Seamless copper tubing alloy # 122 (DHP), hard drawn to Rockwell 58-77 on 30-T scale per ASTM B75.

MECHANICAL

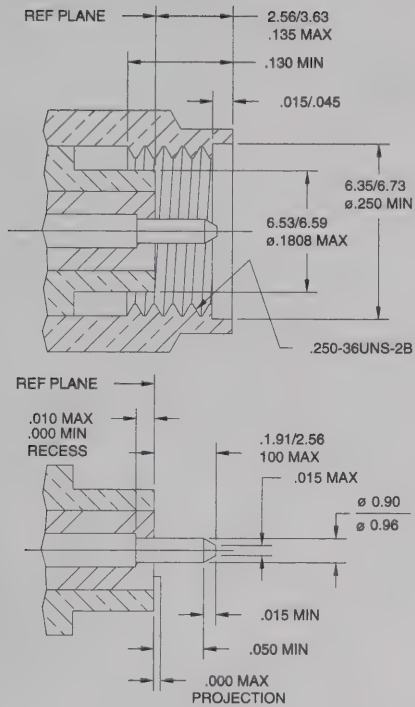
Mating	.250-36 threaded coupling
Mating torque	Minimum: 2 inch pounds 22 N.cm Recommended: 7 to 10 inch pounds 80-110 N.cm Maximum: 15 inch pounds 170 N.cm
Coupling nut retention	Axial force: 100 lbs. min., 300 N.cm Torque: 15 in. lbs. min. 76 N.cm Jacks: N/A
Connector affixment to cable	Crimp types, solder types
Cable affixment to center contact	Solder, except as noted
Contact captivation	All types, except as noted
Cable retention	Crimp type for RG-58, .141, 303=60 lbs min.; for RG-55, 142, 223 = 80 lbs min. 400 N.cm
Connector durability	500 mating and unmating cycles @ 12 cycles per min.

MILITARY SPECIFICATIONS

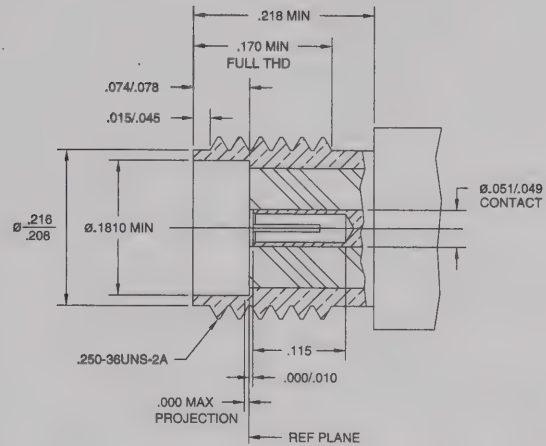
MIL-C-39012 & MIL-C-83517 SMA specification sheets	As applicable
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* These characteristics are typical and may not
apply to all connectors.

Plug



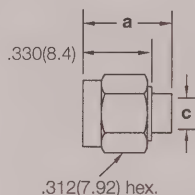
Jack



CECC = Cenelec Electronic Components Committee in Europe

Straight Cable Plugs

Fig. 1



SMA Plugs - Solder to Body
901-9201-2A
 for .085" (2.2mm) S/R, RG-405 (M17/133)
 Gold Plated Nut [VSWR = 1.07 + .008(GHz) DC-18GHz]
901-9201-1A
 for .141" (3.6mm) S/R, RG-402 (M17/130)
 Gold Plated Nut, without Contact & Insulator

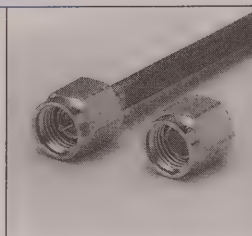
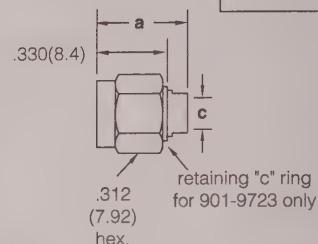


Fig. 2

VSWR = 1.35 max.
 DC-22GHz



coupling nut for
 901-9723 is
 .280(7.1) long.

SMA Plugs - Solder to Body/
 Pre-assembled Factory-Set Interface
901-9723▲
 Passivated Nut, 100 piece Bulk Pack
901-9723-10
 Passivated Nut, Single Pack
 for .085" (2.2mm) S/R, RG-405 (M17/133)

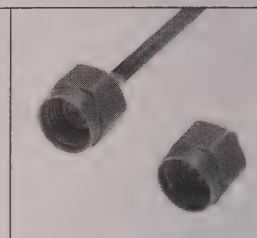
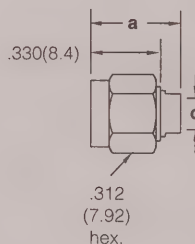


Fig. 3

VSWR = 1.35 max.
 DC-22GHz



901-9808▲
 Preassembled Factory Set Interface
 Gold Plated Nut, Single Pack
 for .141" (3.6mm) S/R, RG-402 (M17/130)

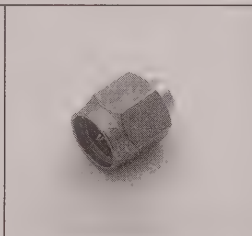
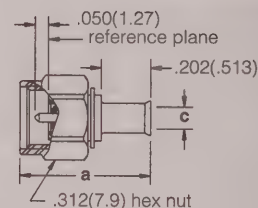


Fig. 4



SMA Plugs - Solder to Body/
 Pre-assembled Factory-Set Interface
901-9805-HP
 Passivated Nut, Single Pack
 for .085" (2.2mm) S/R, RG-405 (M17/133)

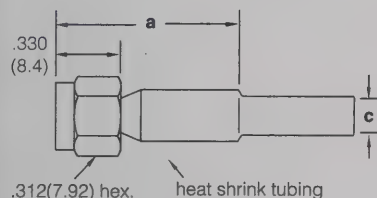


SMA PLUGS FOR SEMI-RIGID CABLE – 50Ω impedance

Cable RG-/U	Cable Attachment		Dim. In. (mm)		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	Outer	Inner	a	c						
.085" (2.2mm) Semi-Rigid RG-405 (M17/133)	Solder	Solder	.438(11.1)	.090(2.3)	C47	P10	D1	—	901-9201-2A	1
	Solder	Plugable	.438(11.1)	.090(2.3)	C48	P10	D1	—	▲ 901-9723	2
	Solder	Plugable	.400(10.2)	.090(2.3)	C48	P11	D1	—	901-9723-10	2
	Solder	Plugable	.531(13.5)	.090(2.3)	C48	P11	D1	—	901-9805-HP	4
.141" (3.6mm) Semi-Rigid RG-402 (M17/130)	Solder	None	.445(11.3)	.145(3.7)	C50	P14	—	w/o Cont. & Ins.	901-9201-1A	1
	Solder	Plugable	.438(11.1)	.145(3.7)	C48	P10	D1	—	▲ 901-9808	3

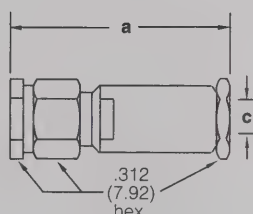
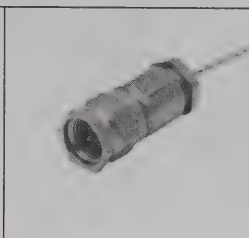
▲ distributor stocked

Fig. 1



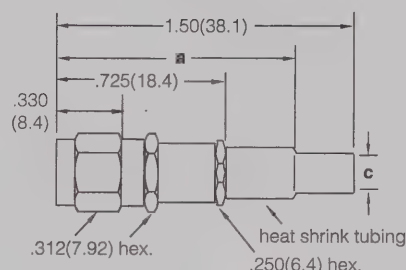
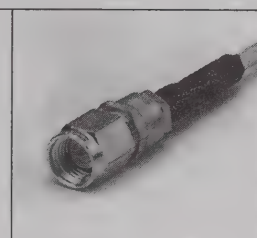
SMA Plug
Braid Solder to Body
Captivated Solder Contact
901-9501-3
for RG-174, 179B, 187A, 188A, 316

Fig. 2



SMA Plugs
BeCu Body, Solder to Nut
901-103•▲
for RG-55, 58, 142, 223
901-128-11•
(M39012/55-4007)
for RG-174, 316

Fig. 3



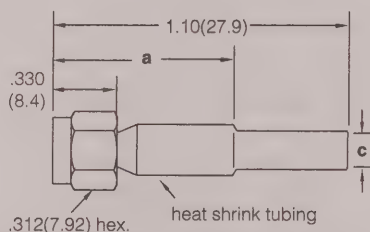
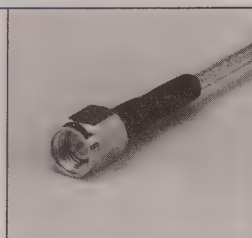
SMA Plugs
Braid Crimp/
Captivated Solder Contact
901-9601-1SF▲
Passivated Body & Nut
for RG-55B, 142B, 223, 400
901-9601-3▲
Gold Plt. Body & Nut
901-9601-3SF▲
Passivated Body & Nut
for RG-174, 179, 187, 188, 316

SMA PLUGS FOR FLEXIBLE CABLE – 50Ω impedance

Cable RG-/U	Cable Attachment		Dim. In. (mm)		CAI	Plt.	Ins.	Construction Notes	Mil. No. 39012/	Amphenol Number	Fig.
	Outer	Inner	a	c							
55, 58, 141, 142, 223	Clamp	Solder	.969(24.6)	.219(5.6)	C43	P9	D1	BeCu Body	—	•▲ 901-103	2
55B, 142B, 223, 400	Crimp	Solder	1.10(28.0)	.220(5.6)	C56	P12	D1	Captivated Contact	—	▲ 901-9601-1SF	3
174, 179, 187, 188, 316	Crimp	Solder	1.10(28.0)	.128(3.3)	C56	P9	D1	Captivated Contact	—	▲ 901-9601-3	3
	Crimp	Solder	1.10(28.0)	.128(3.3)	C56	P12	D1	Captivated Contact	—	▲ 901-9601-3SF	3
174, 179B, 187A, 188A, 316	Solder	Solder	.690(17.5)	.128(3.3)	C46	P11	D1	—	—	901-9501-3	1
174, 316	Clamp	Solder	.984(25.0)	.114(2.9)	C44	P9	D1	BeCu Body	55-4007	• 901-128-11	2

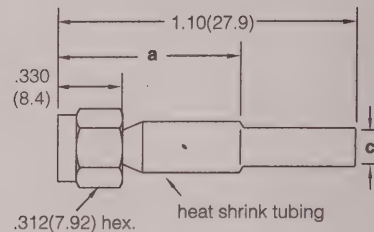
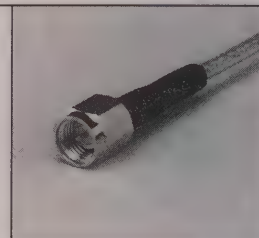
• safety wire holes ▲ distributor stocked

Fig. 1



SMA Plugs
Braid Crimp/
Non-Captivated Solder Contact
901-9511-1▲
Gold Plt. Body & Nut
901-9511-1SF▲
Passivated Body & Nut
for RG-55B, 142B, 223, 400
901-9511-3▲
Gold Plt. Body & Nut
901-9511-3SF▲
Passivated Body & Nut
for RG-174, 179, 187, 188, 316
901-9511-12SF▲
Passivated Body & Nut
for Double Braid RG-316
901-9511-2
Gold Plt. Body & Nut
901-9511-2SF
Passivated Body & Nut
for RG-58

Fig. 2



SMA Plugs
Braid Crimp/
Crimp Center Contact
with Passivated Body & Nut
901-9511-1SFC
for RG-55B, 142B, 223, 400
901-101-15†
BeCu Body
(M39012/55-4502)
for RG-142B, 400
901-9511-3SFC
for RG-174, 179, 187, 188, 316
901-9511-12SFC
for Double Braid RG-316

SMA PLUGS FOR FLEXIBLE CABLE – 50Ω impedance

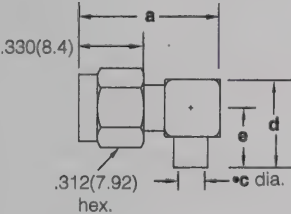

Cable RG-/U	Cable Attachment		Dim. In. (mm)		CAI	Plt.	Ins.	Construction Notes	Mil. No. 39012/	Amphenol Number	Fig.
	Outer	Inner	a	c							
55B, 142B, 223, 400	Crimp	Solder	.812(20.6)	.220(5.6)	C53	P10	D1	Non-Captive Contact	—	▲ 901-9511-1	1
	Crimp	Crimp	.812(20.6)	.220(5.6)	C55	P13	D1	—	—	901-9511-1SFC	2
	Crimp	Solder	.812(20.6)	.220(5.6)	C53	P13	D1	Non-Captive Contact	—	▲ 901-9511-1SF	1
58	Crimp	Solder	.812(20.6)	.206(5.2)	C53	P11	D1	—	—	901-9511-2	1
	Crimp	Solder	.812(20.6)	.206(5.2)	C53	P10	D1	—	—	901-9511-2SF	1
142B, 400	Crimp	Crimp	1.03(26.2)	.220(5.6)	C55	P9	D1	BeCu Body	55-4502	† 901-101-15	2
174, 178, 187, 188, 316	Crimp	Solder	.812(20.6)	.128(3.3)	C55	P10	D1	Non-Captive Contact	—	▲ 901-9511-3	1
	Crimp	Crimp	.812(20.6)	.128(3.5)	C55	P13	D1	—	—	901-9511-3SFC	2
	Crimp	Solder	.812(20.6)	.128(3.3)	C55	P13	D1	Non-Captive Contact	—	▲ 901-9511-3SF	1
Dbl. Braid RG-188, 316	Crimp	Solder	.812(20.6)	.142(3.6)	C55	P13	D1	Non-Captive Contact	—	▲ 901-9511-12SF	1
	Crimp	Crimp	.812(20.6)	.142(3.6)	C55	P13	D1	—	—	901-9511-12SFC	2

• safety wire holes † for crimping center contact, use Tool Handle M22520/1-01 and Crimp Die M22520/1-15 ▲ distributor stocked

SMA
Right Angle Cable Plugs

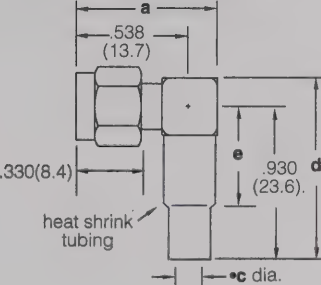
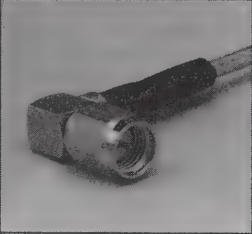
Amphenol®

Fig. 1



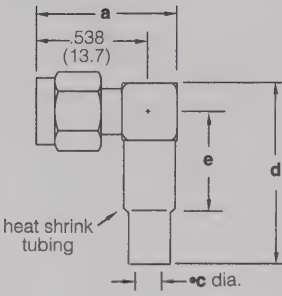
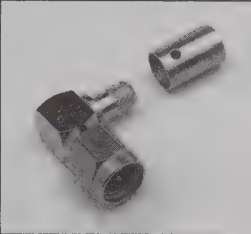
SMA Angle Plugs
Solder to Body
901-9221-2A
Gold Plated Nut
901-9221-2ASF
Passivated Nut
for 085" (2.2mm) S/R
RG-405 (M17/133)
901-9221-1A
Gold Plated Nut
901-9221-1ASF
Passivated Nut
for 141" (3.6mm) S/R
RG-402 (M17/130)

Fig. 2



SMA Angle Plugs
Solder to Nut
901-9531-1▲
Gold Plt. Body & Nut
for RG-55, 142, 223, 400
901-9531-2
Gold Plt. Body & Nut
901-9531-2SF
Passivated Body for RG-58, 141
901-9531-1SF▲
Passivated Body for SF142B
901-9531-3▲
Gold Plt. Body & Nut
901-9531-3SF▲
Passivated Body
for RG-174, 179, 187, 188, 316
901-9531-12▲
Gold Plt. Body & Nut
901-9531-12SF▲
Passivated Body for Double Braid RG-316

Fig. 3



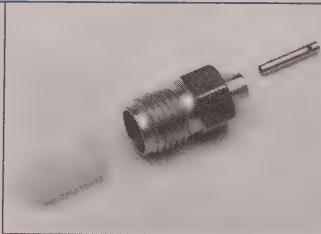
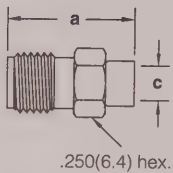
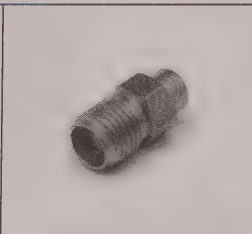
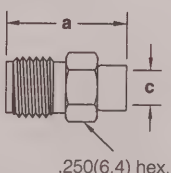
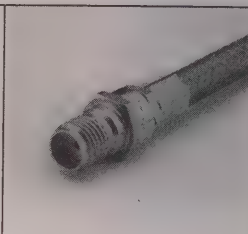
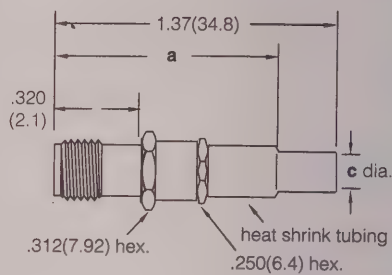
SMA Angle Plugs
Braid Solder,
Solder Contact
901-9521-3▲
for RG-174, 179, 179B, 187,
187A, 188, 188A, 316

SMA RIGHT ANGLE PLUGS FOR SEMI-RIGID & FLEXIBLE CABLE – 50Ω impedance

Cable RG-/U	Cable Attachment		Dim. In. (mm)				CAI	Plt.	Ins.	Notes	Mil. No. 39012/	Amphenol Number	Fig.
	Outer	Inner	a	c	d	e							
.085" (2.2mm) Semi-Rigid RG-405 (M17/133)	Solder	Solder	.680(17.3)	.090(2.3)	.430(10.9)	.305(7.7)	C49	P11	D1	—	—	901-9221-2A	1
	Solder	Solder	.680(17.3)	.090(2.3)	.430(10.9)	.305(7.7)	C49	P11	D1	—	—	901-9221-2ASF	1
.141" (2.2mm) Semi-Rigid RG-402 (M17/130)	Solder	Solder	.680(17.3)	.145(3.7)	.430(10.9)	.305(7.7)	C49	P11	D1	—	—	901-9221-1A	1
	Solder	Solder	.680(17.3)	.145(3.7)	.430(10.9)	.305(7.7)	C49	P11	D1	—	—	901-9221-1ASF	1
55, 141, 142, 223	Crimp	Solder	.682(17.3)	.220(5.6)	1.05(26.7)	.550(14.0)	C53	P11	D1	Cap. Cont.	—	▲ 901-9531-1	2
58, 141	Solder	Solder	.682(17.3)	.206(5.2)	1.05(26.7)	.550(14.0)	C53	P11	D1		—	901-9531-2	2
	Crimp	Solder	.682(17.3)	.206(5.2)	1.05(26.7)	.550(14.0)	C53	P13	D1		—	901-9531-2SF	2
174, 187, 188, 316	Crimp	Solder	.682(17.3)	.128(3.3)	1.05(26.7)	.550(14.0)	C57	P11	D1	Cap. Cont.	—	▲ 901-9531-3	2
	Crimp	Solder	.682(17.3)	.128(3.3)	1.05(26.7)	.550(14.0)	C57	P13	D1	Cap. Cont.	—	▲ 901-9531-3SF	2
174, 179B, 187, 187A, 188, 188A, 316	Solder	Solder	.675(17.1)	.128(3.3)	1.12(28.4)	.440(11.2)	C46	P11	D1	—	—	▲ 901-9521-3	3
SF 142B, Times AA-2423	Crimp	Solder	.675(17.1)	.219(5.6)	1.06(26.9)	.475(12.1)	C53	P13	D1	—	—	▲ 901-9531-1SF	2
Double Braid RG-316	Crimp	Solder	.682(17.3)	.142(3.6)	1.05(26.7)	.550(14.0)	C57	P11	D1	Cap. Cont.	—	▲ 901-9531-12	2
	Crimp	Solder	.682(17.3)	.142(3.6)	1.05(26.7)	.550(14.0)	C57	P13	D1	Cap. Cont.	—	▲ 901-9531-12SF	2

▲ distributor stocked

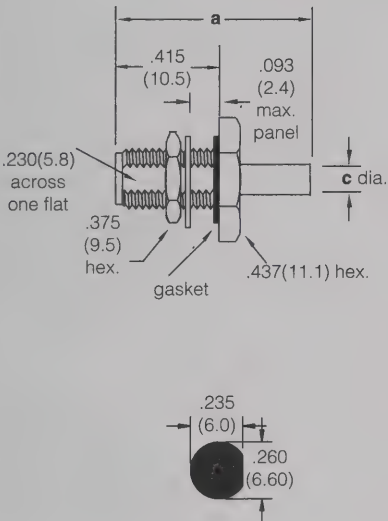
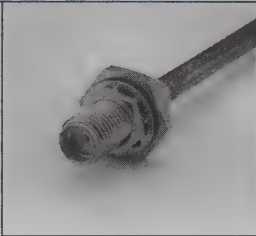


<p>Fig. 1</p>   <p>SMA Jacks Solder to Body Solder Center Contact 901-9202-1A for .141" (3.6mm) S/R RG-402 (M17/130) 901-9202-2A for .085" (2.2mm) S/R RG-405 (M17/133)</p>	<p>Fig. 2</p>   <p>SMA Jack Solder to Body Pre-assembled Center Contact 901-9704 Gold Plated for .141" (3.6mm) S/R RG-402 (M17/130)</p>	<p>Fig. 3</p>   <p>SMA Jacks Braid Crimp Solder Captive Contact 901-9602-1 Gold Plated, 901-9602-1SF Passivated for RG-55B, 142B, 223, 400 901-9602-3 Gold Plated, 901-9602-3SF Passivated for RG-174, 179, 187, 188, 316 901-9602-12SF Passivated for Double Braid RG-316</p>
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SMA JACKS FOR SEMI-RIGID & FLEXIBLE CABLES – 50Ω Impedance

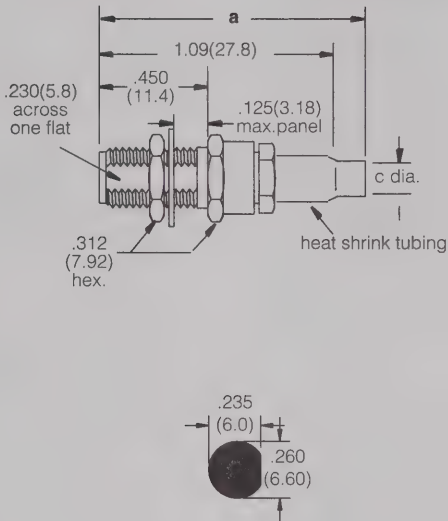
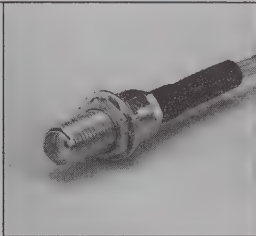
Cable RG-/U	Cable Attachment		Dimensions In. (mm)		CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
	Outer	Inner	a	c						
.085" (3.6mm) Semi -Rigid (RG-405) (M17/133)	Solder to Body	Solder	.500(12.7)	.088(2.2)	C47	P9	D1	—	901-9202-2A	1
.141" (3.6mm) Semi -Rigid RG-402 (M17/130)	Solder to Body	Solder	.500(12.7)	.144(3.7)	C47	P10	D1	—	901-9202-1A	1
	Solder to Body	Solder	.500(12.7)	.144(3.7)	C59	P11	D1	Pre-assembled Cont.	901-9704	2
55, 142, 223, 400	Crimp	Solder	.965(24.5)	.220(5.6)	C56	P9	D1	Captive Contact	901-9602-1	3
	Crimp	Solder	.965(24.5)	.220(5.6)	C56	P12	D1	Captive Contact	901-9602-1SF	3
174, 179, 187, 188, 316	Crimp	Solder	.965(24.5)	.128(3.3)	C56	P9	D1	Captive Contact	901-9602-3	3
	Crimp	Solder	.965(24.5)	.128(3.3)	C56	P12	D1	Captive Contact	901-9602-3SF	3
Double Braid RG-316	Crimp	Solder	.965(24.5)	.142(3.6)	C56	P12	D1	Captive Contact	901-9602-12SF	3

Fig. 1



SMA Bulkhead Jacks
Solder to Body
Solder Center Contact
Gold Plated
901-9210-1
for .141" (3.6mm)
S/R RG-402 (M17/130)
901-9210-2
for .085" (2.2mm)
S/R RG-405 (M17/133)

Fig. 2



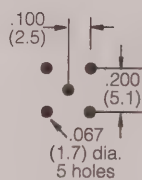
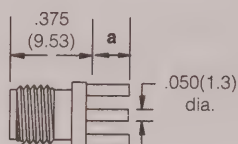
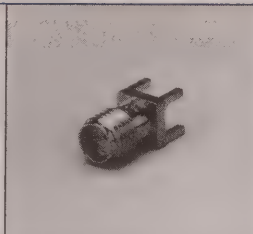
SMA Bulkhead Jacks
Braid Crimp
Solder Center Contact
901-9610-1SF▲
Passivated
for RG-55B, 142B, 223, 400
901-9610-3▲
Gold Plated,
901-9610-3SF▲
Passivated
for RG174, 179, 187, 188, 316
901-9610-12SF
Passivated
for Double Braid RG-316

SMA BULKHEAD JACKS FOR SEMI-RIGID & FLEXIBLE CABLES – 50Ω Impedance

Cable RG-/U	Cable Attachment		Dimensions In. (mm)		CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
	Outer	Inner	a	c						
.085" (2.2mm) Semi-Rigid RG-405 (M17/133)	Solder to Body	Solder	.750(19.1)	.090(2.3)	C47	P9	D1	—	901-9210-2	1
.141" (3.6mm) Semi-Rigid RG-402 (M17/130)	Solder to Body	Solder	.750(19.1)	1.44(3.7)	C47	P10	D1	—	901-9210-1	1
55, 142, 223, 400	Crimp	Solder	1.50(38.1)	.220(5.6)	C56	P13	D1	Capt. Contact	▲ 901-9610-1SF	2
174, 179, 187, 188, 316	Crimp	Solder	1.50(38.1)	.128(3.3)	C56	P11	D1	Capt. Contact	▲ 901-9610-3	2
	Crimp	Solder	1.50(38.1)	.128(3.3)	C56	P13	D1	Capt. Contact	▲ 901-9610-3SF	2
Double Braid 316	Crimp	Solder	1.50(38.1)	.142(3.6)	C56	P13	D1	Capt. Contact	901-9610-12SF	2

▲ distributor stocked

Fig. 1



SMA Printed Circuit Receptacle
Gold Plated
Blunt Post Terminal
Four Legs
901-144▲

.155(3.9) Legs & Term.

901-144-2

.105(2.7) Solder Dipped Legs & Term.

901-144-3

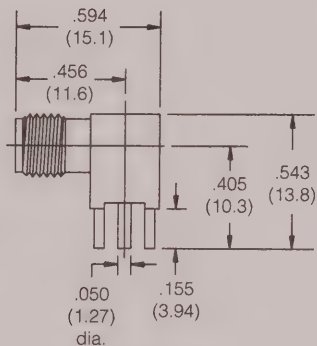
.155(3.9) Solder Dipped Legs & Term.

901-144-4

.200(5.1) Legs & Term

with Stand-off Pads

Fig. 2



SMA Printed Circuit Receptacle
Gold Plated
Blunt Post Terminal
Four Legs

.025 Stand-off Pads

901-143▲

.155(3.9) Legs & Term.

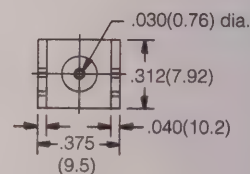
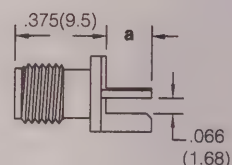
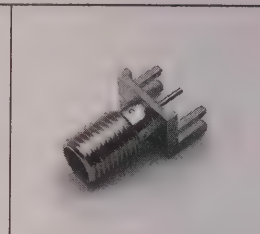
901-143-3

.155(3.9) Solder Dipped Legs & Term.

901-143-4

.105(2.7) Solder Dipped Legs & Term.

Fig. 3



SMA Printed Circuit Receptacle
Edge Mount
901-9850
for .062" Printed Circuit Board

SMA PRINTED CIRCUIT RECEPTACLES – female contacts

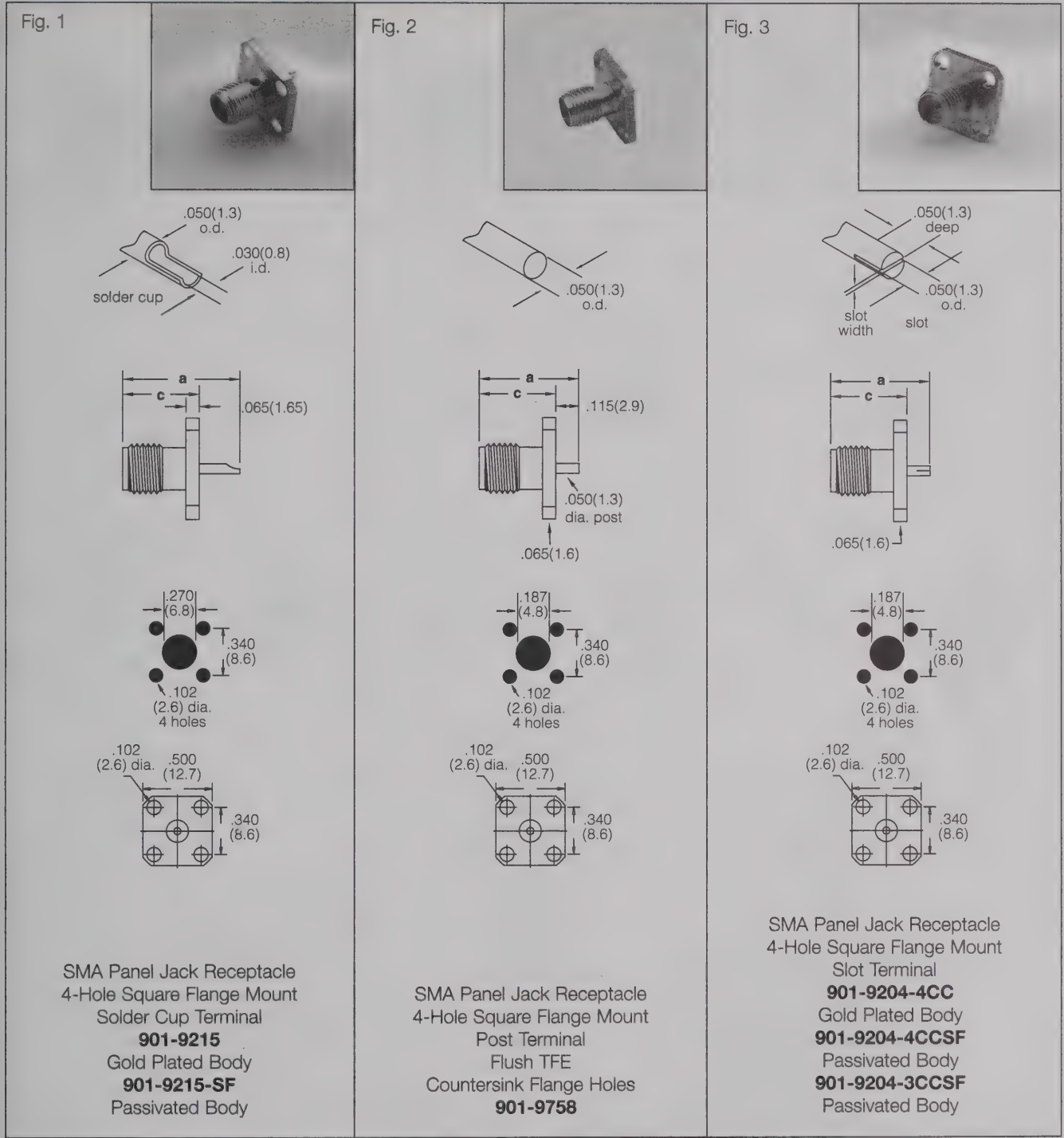
Description	Terminal Type	Pit.	Ins.	MTG Hole	Construction Notes		Dim. a	Amphenol Number	Fig.
Printed Circuit Board Panel Jack Receptacle	Blunt Post	P11	D1	T	Captive Contact	—	.155(3.9)	▲ 901-144	1
						Solder Dipped Legs & Term	.105(2.7)	901-144-2	1
						Solder Dipped Legs & Term	.155(3.9)	901-144-3	1
						.025 Stand-off Pads	.200(5.1)	901-144-4	1
Printed Circuit Board Angle Jack Receptacle	Blunt Post	P11	D1	T	.025 Stand-off Pads	—	.155(3.9)	▲ 901-143	2
						Solder Dipped Legs & Term	.155(3.9)	901-143-3	2
						Solder Dipped Legs & Term	.105(2.7)	901-143-4	2
Printed Circuit Board Edge Mt Jack Receptacle	Blunt Post	P10	D1	—	For .062" Thick PCB	—	.187(4.8)	901-9850	3

▲ distributor stocked

SMA

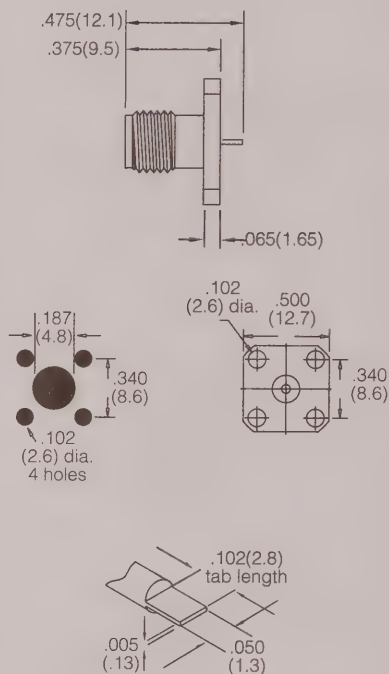
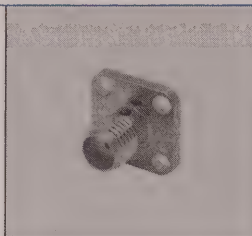
Amphenol®

Panel Jack Receptacles – 4-hole Flange



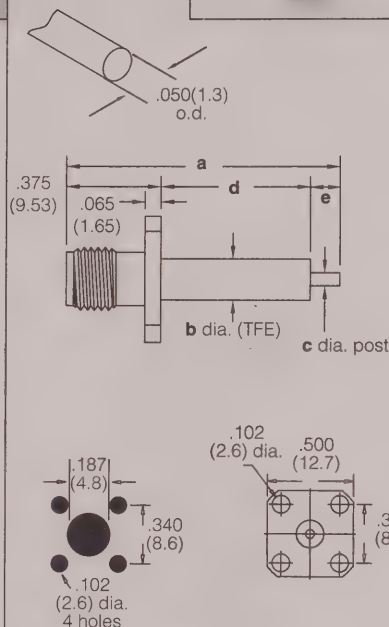
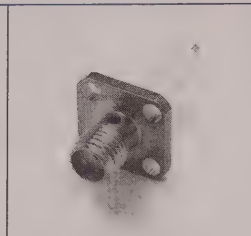
Panel Jack Receptacles – 4-hole Flange

Fig. 1



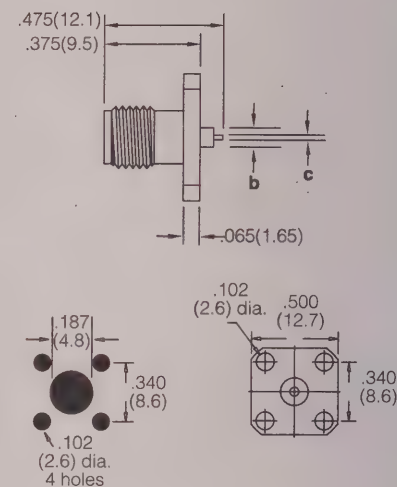
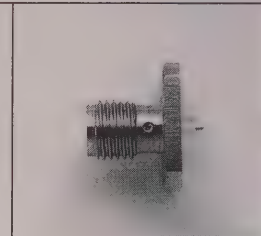
SMA Panel Jack Receptacle
Tab Terminal
Captivated
901-9215-3CCSF
Passivated

Fig. 2



SMA Panel Jack
4-Hole Square Flange Mount
Exposed TFE
Blunt Post Terminal
901-9204-CC
.590 Exposed TFE
901-9204-CCSF
.590 Exposed TFE
901-9757
.590 Exposed TFE
901-9839
.205 Exposed TFE
901-9184-CCSF
.087 Exposed TFE
901-9789
.060 Exposed TFE

Fig. 3

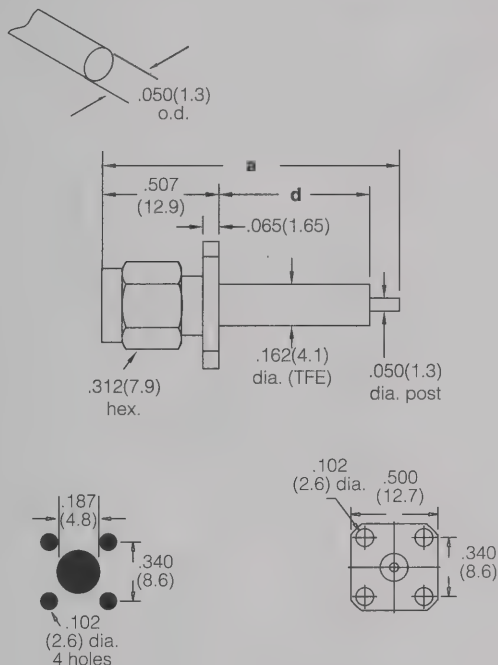
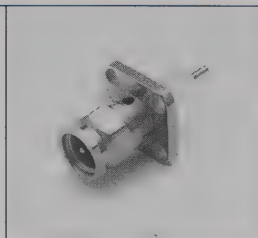


SMA Panel Jack
4-Hole Square Flange Mount
Exposed TFE
Blunt Post Terminal
901-9804-1
.125 Exposed TFE

SMA PANEL JACK RECEPTACLES – 4-hole square flange mount

Terminal Type	Dimensions In. (mm)					Plt.	Ins.	Amphenol Number	Fig.
	a	b	c	d	e				
Blunt Post	1.08(27.4)	.162(4.1) dia	.050(1.3) dia	.590(15.0)	.115(2.9)	P9	D1	901-9204-CC	2
Blunt Post	1.08(27.4)	.162(4.1) dia	.050(1.3) dia	.590(15.0)	.115(2.9)	P13	D1	901-9204-CCSF	2
Blunt Post	1.08(27.4)	.162(4.1) dia	.050(1.3) dia	.590(15.0)	.115(2.9)	P13	D1	901-9757	2
Blunt Post	.640(16.2)	.162(4.1) dia	.050(1.3) dia	.205(5.2)	.060(1.5)	P13	D1	901-9839	2
Blunt Post	.562(14.3)	.162(4.1) dia	.050(1.3) dia	.087(2.2)	.100(2.5)	P13	D1	901-9184-CCSF	2
Blunt Post	.560(14.2)	.162(4.1) dia	.050(1.3) dia	.060(1.5)	.125(3.2)	P13	D1	901-9789	2
Blunt Post, Solder Dipped	.563(14.3)	.085(2.2) dia	.010(0.3) dia	.125(3.2)	.063(1.6)	P13	D1	901-9804-1	3
Tab ± .100 (2.5) Long	Captive Contact, Flush TFE, Conforms to M83517/1-31004 (NQ)*					P12	D1	901-9215-3CCSF	1

Fig. 1



SMA Panel Plug Receptacle
4-Hole Square Flange Mount

.062 dia. Exposed TFE
.050 dia. Post Terminal

901-9214-CC

Gold Plated

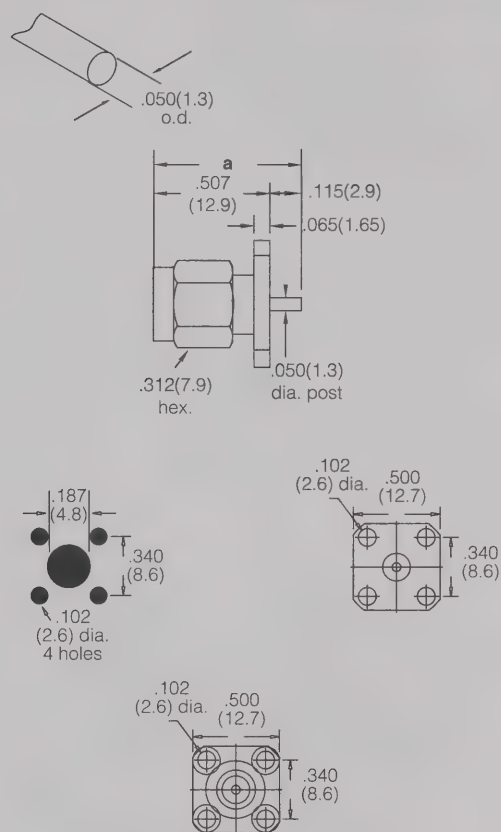
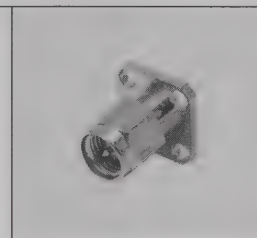
901-9214-CCSF

Passivated

901-9788

Passivated with Conductive Epoxy Cap

Fig. 2



SMA Panel Plug Receptacles
4-Hole Square Flange Mount
Flush TFE

.050 dia. Post Terminal

901-9767

901-9760

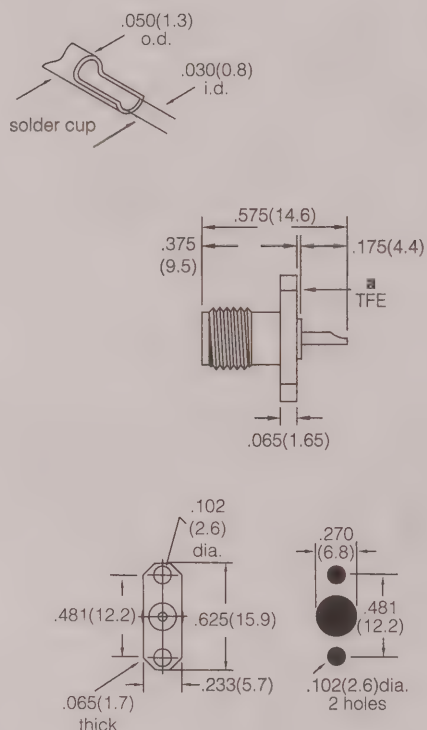
(Countersink Flange Holes)

SMA PANEL PLUG RECEPTACLES – 4-hole square flange

Description	Dim Inches (mm)		Plt.	Ins.	Construction Notes		Amphenol Number	Fig.
	a	d						
Blunt Post/.158(4.0) Long	.995(25.3)	.330(8.4)	P9	D1	Captive Contact/.330(8.4) Exposed TFE	Gold Plated Body	901-9214-CC	1
Blunt Post/.158(4.0) Long	.995(25.3)	.330(8.4)	P12	D1	Captive Contact/.330(8.4) Exposed TFE	Passivated Body	901-9214-CCSF	1
Blunt Post/.115(2.9) Long	1.21(30.8)	.590(15.0)	P13	D1	Captive Contact/.590(15.0) Exposed TFE	Passivated Body	901-9788	1
Blunt Post/.115(2.9) Long	.622(15.8)	—	P13	D1	Captive Contact/Flush TFE	Passivated Body	901-9767	2
Blunt Post/.115(2.9) Long	.622(15.8)	—	P13	D1	Captive Contact/Flush TFE C'sink Flange Holes	Passivated Body	901-9760	2

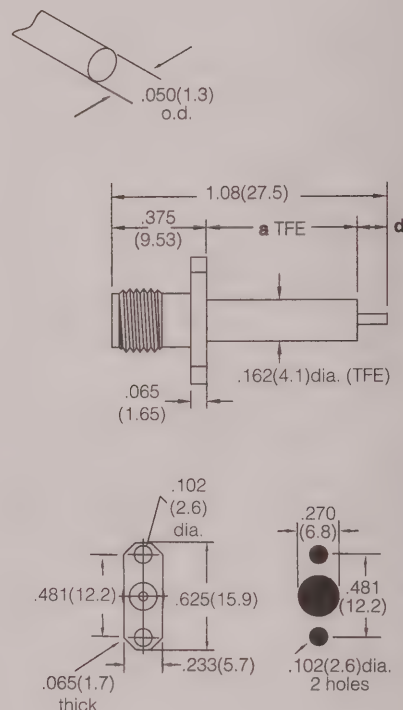
Panel Jack Receptacles – 2-hole Flange

Fig. 1



SMA Panel Jack Receptacles
2-Hole Trimline Flange Mount
Solder Cup Terminal
901-9244-2
Gold Plated

Fig. 2



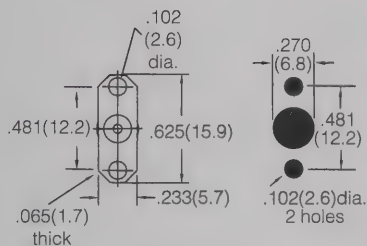
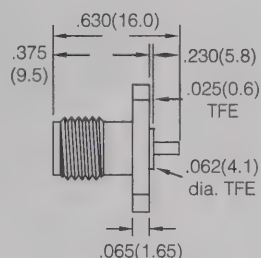
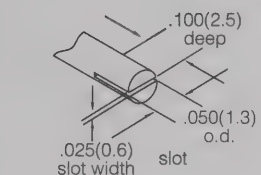
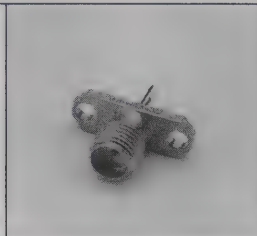
SMA Panel Jack Receptacles
2-Hole Trimline Flange Mount
Exposed TFE
Blunt Post Terminal
901-9000-CC
Gold Plated
901-9000-CCSF
Passivated Finish
901-9185-CCSF
Passivated Finish

SMA PANEL JACK RECEPTACLES – 2-hole trimline flange

Description	Terminal Type	Plt.	Ins.	Construction Notes		Amphenol Number	Fig.
Panel Jack Receptacle	Solder Cup	P10	D1	Captive Contact/ a=.025" (0.6mm) Exposed TFE	Gold Plated	901-9244-2	1
Panel Jack Receptacle	Blunt Post	P10	D1	Captive Contact/d=.117(3.0) Long Post	Gold Plated	901-9000-CC	2
		P13	D1	a=.590" (15.0mm) Exposed TFE	Passivated	901-9000-CCSF	2
Panel Jack Receptacle	Blunt Post	P13	D1	Captive Contact/d=.103(2.6) Long Post a=.334" (8.5mm) Exposed TFE	Passivated	901-9185-CCSF	2

Panel Jack Receptacles – 2-hole Flange

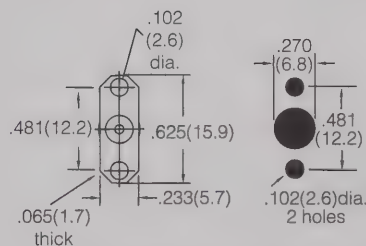
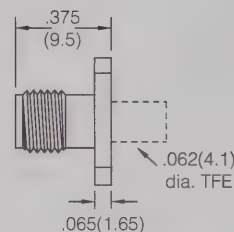
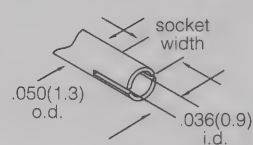
Fig. 1



.223" Wide 2-Hole Trimline Flange

SMA Panel Jack Receptacles
Slot Terminal
901-9244-1 ‡
Gold Plated
901-9244-1SF ‡
Passivated Finish

Fig. 2



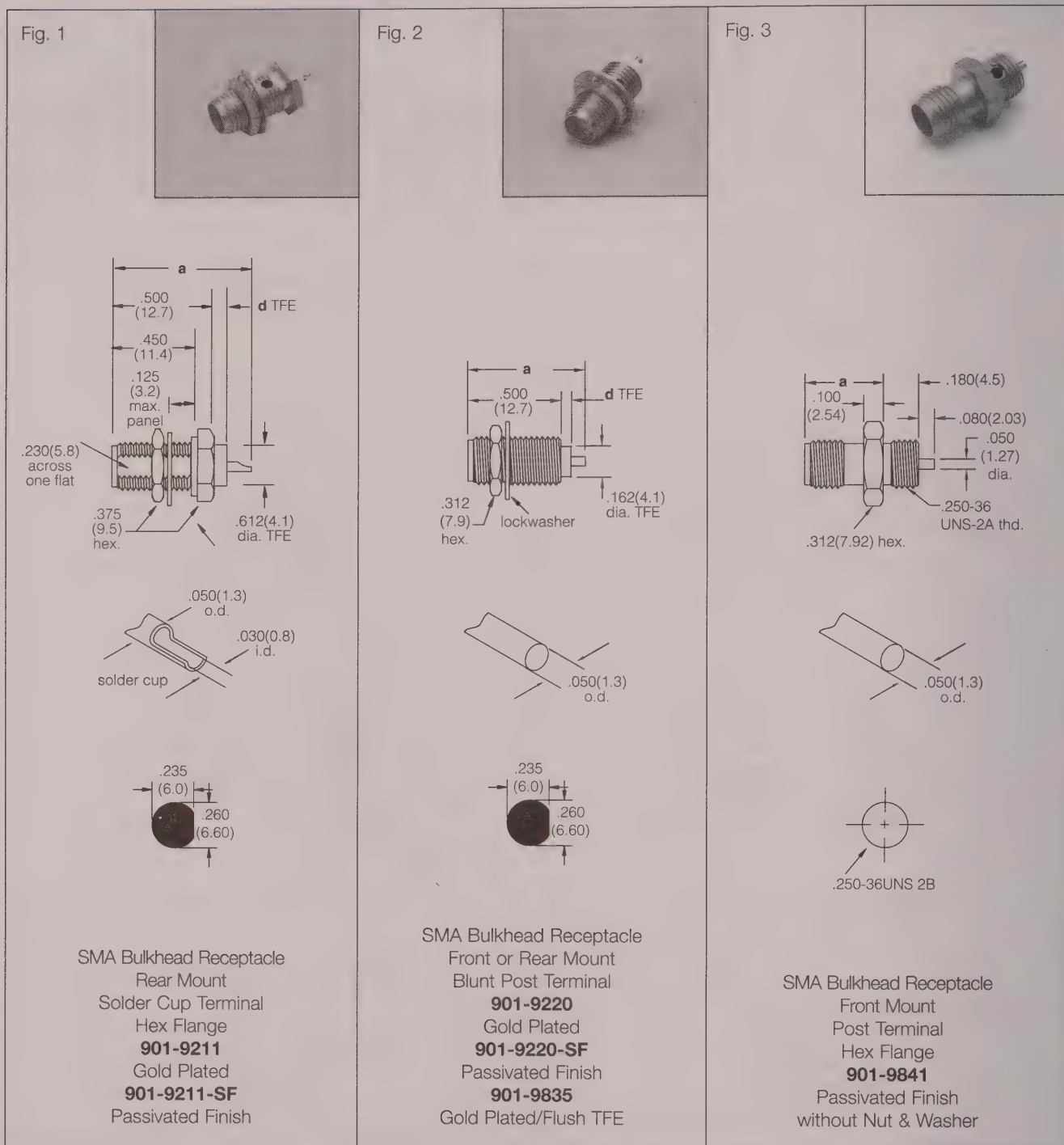
.223" Wide 2-Hole Trimline Flange

SMA Panel Jack Receptacles
Socket Terminal
901-9814
Flush TFE,
Conductive Epoxy Cap
901-9770
.185 Exposed TFE

SMA PANEL RECEPTACLES – 2-hole trimline flange

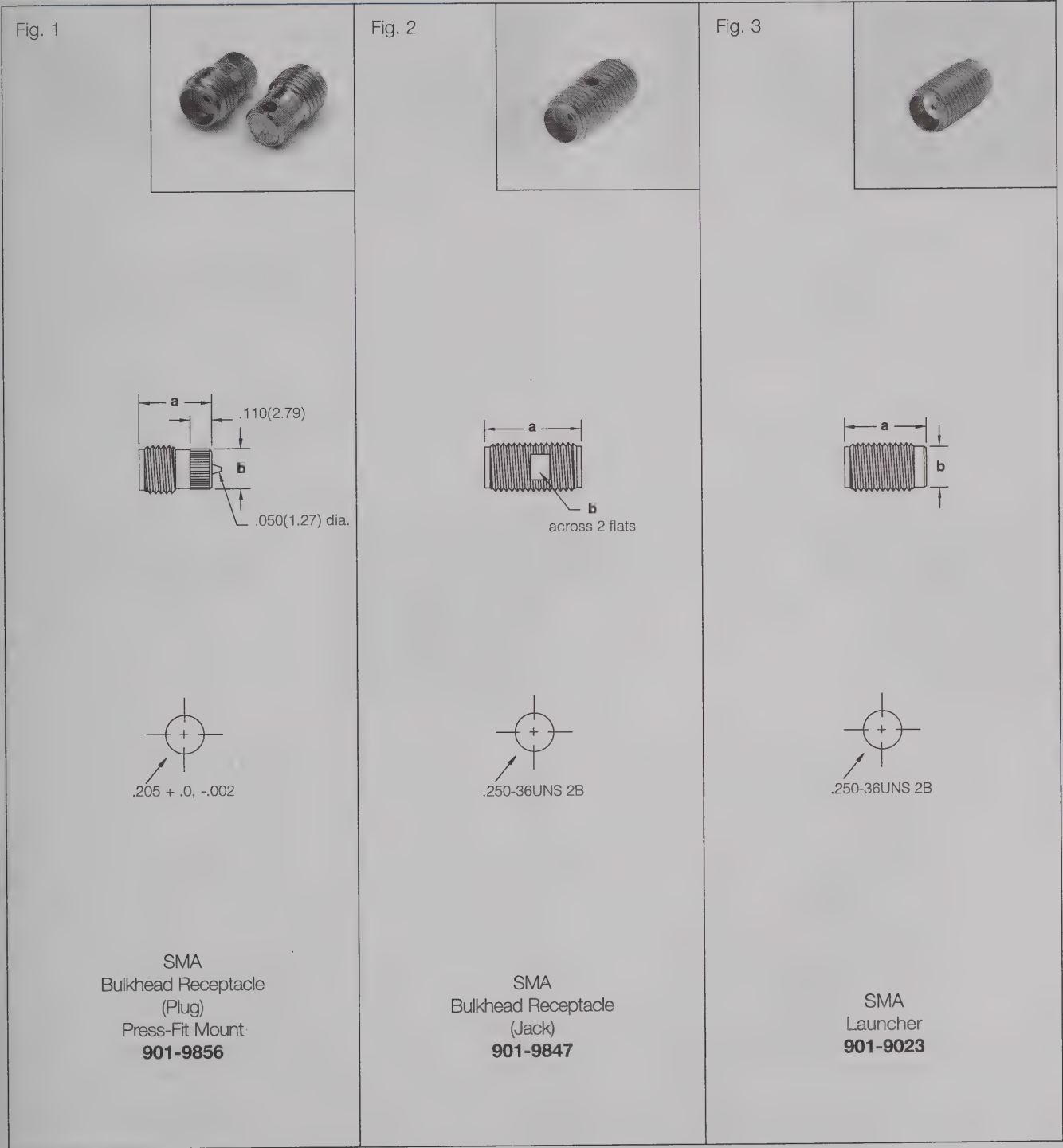
Description	Terminal Type	Plt.	Ins.	Construction Notes		Amphenol Number	Fig.
Panel Jack Receptacle	Slot .025" (0.6mm) wide	P9	D1	Contact Shipped Unassembled/ .025" (0.6 mm) Exposed TFE	Gold Plated	‡ 901-9244-1	1
		P13	D1		Passivated	‡ 901-9244-1SF	1
Panel Jack Receptacle	Socket	P13	D1	Flush TFE	Passivated Body	901-9814	2
Panel Jack Receptacle	Socket	P13	D1	.085 Exposed TFE	Passivated Body	901-9770	2

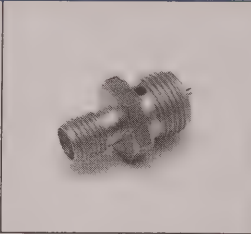
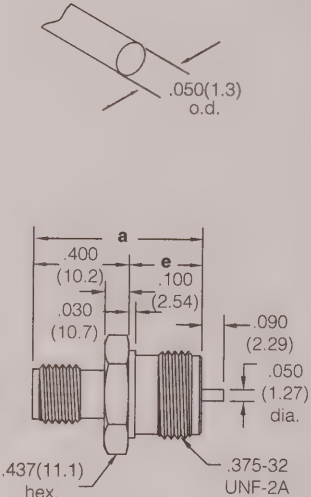

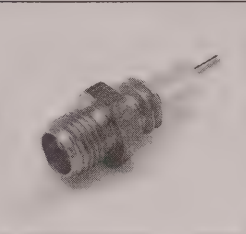
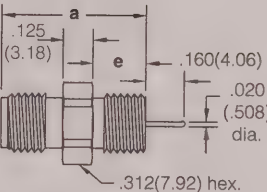

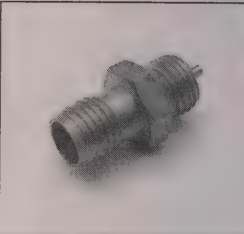
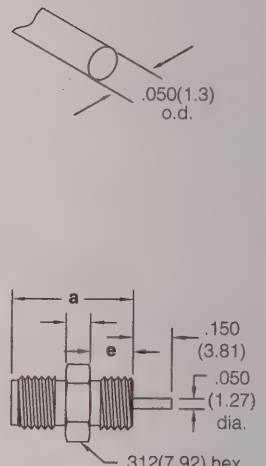
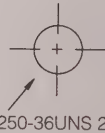
‡ Contact shipped unassembled. User has option for slot orientation



SMA BULKHEAD RECEPTACLES – female contacts

Description	Terminal Type	Plt.	Ins.	Construction Notes	Dim Inches (mm)		Amphenol Number	Fig.
					a	d		
Rear Mount/ Hex Flange	Solder Cup	P10	D1	Captive Contact/ Gold Plated	.668(17.0)	.066(1.7)	901-9211	1
	Solder Cup	P13	D1	.066(1.7mm) Exposed TFE Passivated	.668(17.0)	.066(1.7)	901-9211-SF	1
Front or Rear Mount	Blunt Post	P10	D1	Captive Contact/ Gold Plated	.660(16.7)	.076(1.9)	901-9220	2
	Blunt Post	P13	D1	.076(1.9mm) Exposed TFE Passivated	.660(16.7)	.076(1.9)	901-9220-SF	2
	Blunt Post	P11	D1	Captive Contact/Flush TFE Gold Plated	.625(15.9)	.076(1.9)	901-9835	2
Front Mount	Post	P11	D1	Flush TFE Gold Plated	.400(10.2)	—	901-9841	3



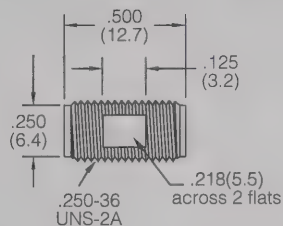
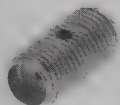
<p>Fig. 1</p>    <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9842</p>	<p>Fig. 2</p>    <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9909</p>	<p>Fig. 3</p>    <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9911</p>
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SMA MID-FLANGE BULKHEAD RECEPTACLES – female contacts

Description	Terminal Type	Plt.	Ins.	Construction Notes		Dim Inches (mm)		Amphenol Number	Fig.
						a	e		
Front Mount	Blunt Post	P13	D1	Flush TFE	Passivated	.706(17.9)	.306(7.77)	901-9842	1
Front Mount	Blunt Post	P13	D1	.020 Spherical Radius	Passivated	.600(15.2)	.220(5.89)	901-9909	2
Front Mount	Blunt Post	P12	D1	Gold over Copper Contact	Passivated	.500(12.7)	.188(4.78)	901-9911	3

Fig. 1

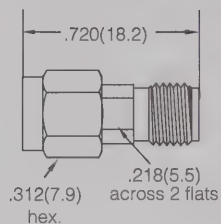
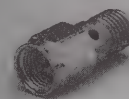
DC-18 GHz
1.14 VSWR
max.



SMA Straight Adapter, Jack-Jack
901-9217
Gold Plated
901-9217-SF
Passivated Finish

Fig. 2

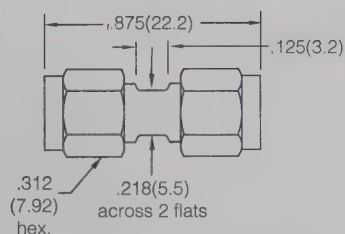
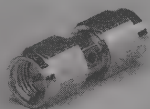
DC-18 GHz
1.14 VSWR max.



SMA Straight Adapter, Plug-Jack
901-9216
Gold Plated
901-9216-SF
Passivated Finish

Fig. 3

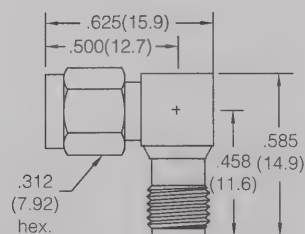
DC-18 GHz
1.14 VSWR max.



SMA Straight Adapter, Plug-Plug
901-9218
Gold Plated
901-9218-SF
Passivated Finish

Fig. 4

DC-18 GHz
1.23 VSWR max.

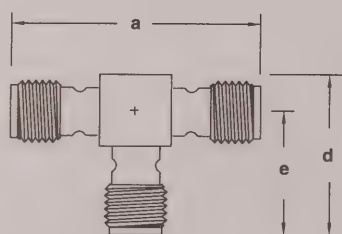
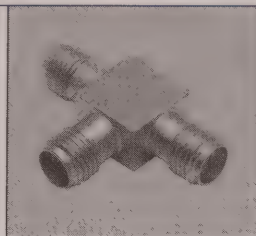


SMA Angle Adapter, Plug-Jack
901-125-11
Gold Plated
901-125-11SF
(M55339/02-30001) Passivated

SMA IN-SERIES ADAPTERS

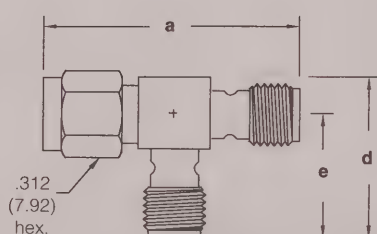
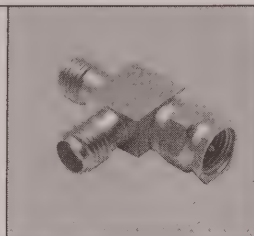
Description	Plt.	Ins	Notes		Mil. No. M55339/	Amphenol Number	Fig.
Straight Jack-Jack	P9	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	Gold Plated	—	901-9217	1
	P12			Passivated	—	901-9217-SF	
Straight Plug-Jack	P9	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	Gold Plated	—	901-9216	2
	P12			Passivated	—	901-9216-SF	
Straight Plug-Plug	P10	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	Gold Plated	—	901-9218	3
	P12			Passivated	—	901-9218-SF	
Angle Plug-Jack	P13	D1	DC-18GHz Max. VSWR 1.23 Captive Contact	Gold Plated	—	901-125-11	4
	P13			Passivated	02-30001	901-125-11SF	

Fig. 1



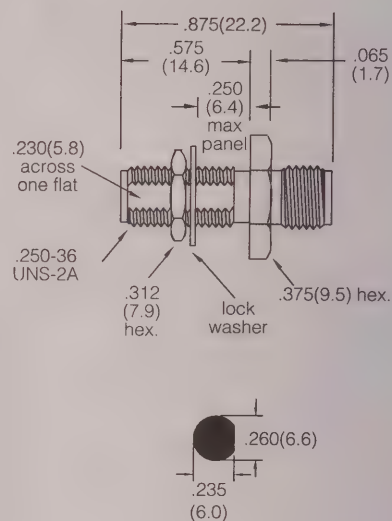
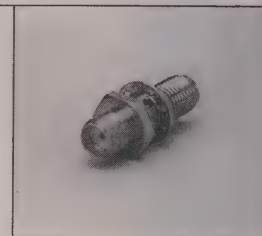
SMA Tee Adapter
Jack-Jack-Jack
901-178
Gold Plated

Fig. 2



SMA Tee Adapter
Plug-Jack-Jack
901-382-1
Gold Plated

Fig. 3



SMA Bulkhead Adapter
Jack-Jack
901-9209-A
Gold Plated
901-9209-ASF
Passivated Finish

SMA IN-SERIES TEE ADAPTERS

Description	Dimensions, Inches (millimeters)			Plt.	Ins	Notes	Amphenol Number	Fig.
	a	d	e					
Tee Adapter, Jack-Jack-Jack	1.00(25.4)	.687(17.5)	.500(12.7)	P9	D1	BeCu Body	901-178	1
Tee Adapter, Plug-Jack-Jack	1.08(27.4)	.687(17.5)	.500(12.7)	P9	D1	BeCu Body	901-382-1	2

SMA IN-SERIES BULKHEAD ADAPTERS

Description	Plt.	Ins	Notes	Amphenol Number	Fig.
Bulkhead Jack-Jack Front or Rear Mount	P11	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	901-9209-A	3
	P13			901-9209-ASF	

Brass Coaxial Connectors

Amphenol has available a line of 50 ohm SMA brass connectors as a cost effective solution for applications where stainless steel construction is not required. This gives the design engineer flexibility with performance to complete projects with world class components.

Amphenol series 901 SMA brass connectors are semi-precision, subminiature units which provide electrical performance from DC to 18 GHz. These high performance connectors are compact in size and mechanically have outstanding durability.

Amphenol brass SMA connectors feature pre-assembled captive center contacts, brass body and coupling nuts. These connectors are built in accordance with MIL-C-39012 and can be mated with all connectors which meet the military specification mating diameters regardless of manufacturer.

Amphenol SMA designs are available for .085" and .141" diameter semi-rigid cables as well as all the standard flexible cables including double shielded RG-316. These connectors are adaptable to the interconnection requirements of both systems and components.

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	.141" & .085" O.D. copper jacket semi-rigid cable: 0-18GHz. Flexible cables: 0-12.4 GHz.
Voltage rating	RG-58,141,142: 500 volts peak RG-174, 188, 316: 375 volts peak
Dielectric withstanding voltage	.141" & RG-58 group: 1,000 VRMS. .085" & RG-316 group: 750 VRMS.
VSWR (straight connectors)	.141" O.D. semi-rigid cable: 1.05 + .005 f RG-174 group: 1.15 + .02 f RG-58 group: 1.15 + .01 f RG-178 group: 1.20 + .025 f
Contact resistance	Center: 2.0 milliohms Body: 2.0 milliohms Braid to body: 0.5 milliohms
Insulation resistance:	5000 megohms
RF leakage	-90 dB min. at 2.3 GHz
Insertion loss:	dB max. = .06 \sqrt{f} (GHz) Test frequency @ 6.0 GHz

MATERIAL

Bodies, coupling nuts, other metal parts (except as noted)	Brass per QQ-B-626
Contacts	
Male:	Brass
Female:	Beryllium copper, heat treated
Plating: Center contacts,	.000030" min. gold
Plating: Other metal parts	Standard .000010" gold or nickel plated
Insulators	TFE fluorocarbon
Gaskets	Silicone rubber
Crimp ferrules	Seamless copper tubing alloy

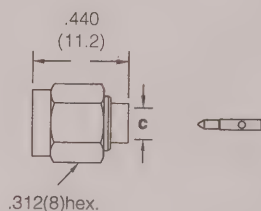
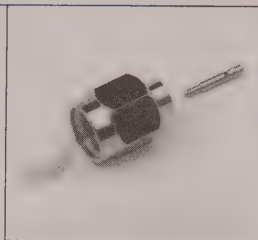
MECHANICAL†

Mating	.250-36 Threaded coupling
Mating Torque	Minimum: 2 inch pounds 12 N.cm Recommended: 8 to 10 inch pounds 45 N.cm Maximum: 15 inch pounds 60 N.cm
Connector Durability	100 matings

* These characteristics are typical and may not apply to all connectors.

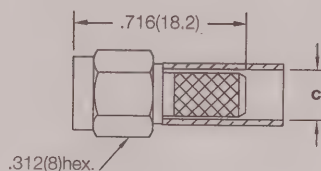
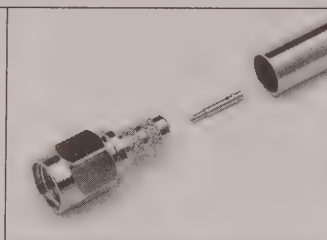
† Pressure applied on an SMA outer contact is extremely high; therefore inadequate torque of connector body will result in a slight deformation of the outer contact. Reflections will appear above 2GHz.

Fig. 1



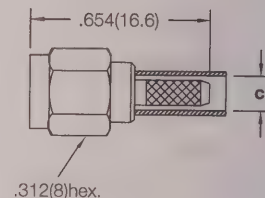
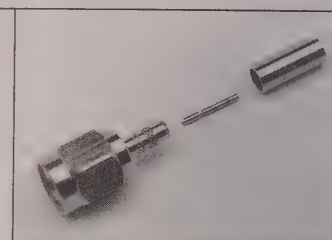
SMA Solder Plug
901-9868-RFX▲
Gold Plated
for .141" S/R
901-9867-RFX▲
Gold Plated
for .085" S/R

Fig. 2



SMA Crimp Plug
Captivated Center Contact
901-9870▲
Gold Plated
for RG-58
901-9871▲
Gold Plated
for RG-223, 141
901-9876-RFX▲
Nickel Plated
for RG-58

Fig. 3



SMA Crimp Plug
Captivated Center Contact
901-9877-RFX▲
Nickel Plated
for RG-174, 188, 316
901-9916
Gold Plated
for RG-174, 188, 316

SMA BRASS PLUGS

Cable RG-/U	Connector Description	Cable Attachment		c Dia In. (mm)	CAI	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner						
58	Plug	Crimp	Solder	.210(5.3)	C53	D1	Captive Contact	▲ 901-9870	2
58	Plug	Crimp	Solder	.210(5.3)	C53	D1	Captive Contact	▲ 901-9876-RFX	2
174, 188, 316	Plug	Crimp	Solder	.128(3.3)	C57	D1	Captive Contact	▲ 901-9877-RFX	3
174, 188, 316	Plug	Crimp	Solder	.128(3.3)	C57	D1	Captive Contact	901-9916	3
141, 223	Plug	Crimp	Solder	.220(5.6)	C53	D1	Captive Contact	▲ 901-9871	2
.085" S/R	Plug	Solder	Solder	.090(2.3)	C47	D1	—	▲ 901-9867-RFX	1
.141" S/R	Plug	Solder	Solder	.145(3.7)	C47	D1	—	▲ 901-9868-RFX	1

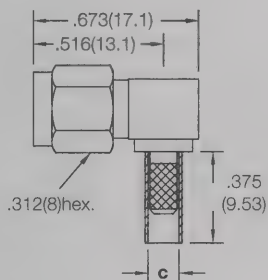
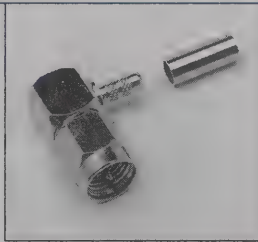
▲ distributor stocked

SMA

Brass Angle Plugs & Bulkhead Jacks

Amphenol®

Fig. 1



SMA Angle Plug, Crimp

901-9872▲

Gold Plated for RG-174, 188, 316

901-9873▲

Gold Plated for RG-58

901-9874▲

Gold Plated for RG-141, 223

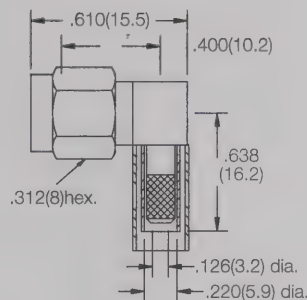
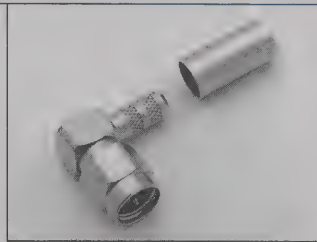
901-9880-RFX▲

Nickel Plated for RG-58

901-9881-RFX▲

Nickel Plated 174, 188, 316

Fig. 2

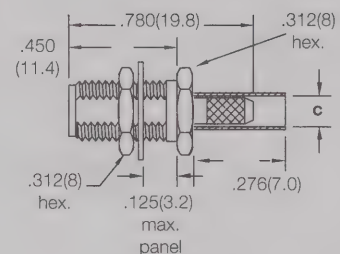
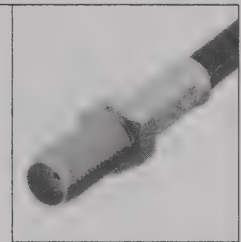


SMA Low Profile
Angle Plug, Crimp

901-9902

Nickel Plated for RG-141, 223

Fig. 3



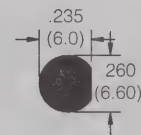
SMA Bulkhead Jack, Crimp

901-9875▲

Gold Plated for RG-174, 188, 316

901-9879-RFX▲

Nickel Plated for RG-174, 188, 316



SMA BRASS ANGLE PLUGS

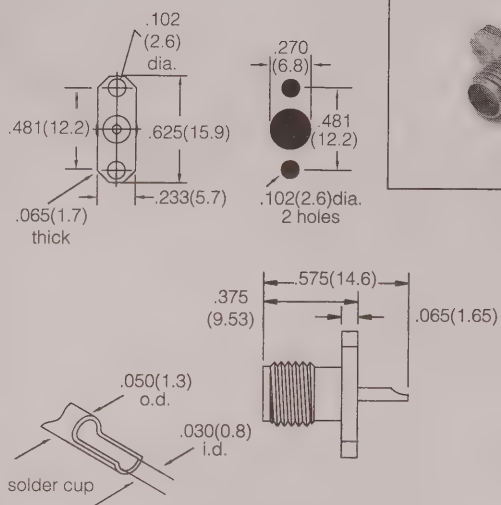
Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	CAI	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner						
58	Angle Plug	Crimp	Solder	.210(5.3)	C53	D1	Gold Plated Body	▲ 901-9873	1
	Angle Plug	Crimp	Solder	.210(5.3)	C53	D1	Nickel Plated Body	▲ 901-9880-RFX	1
174, 188, 316	Angle Plug	Crimp	Solder	.128(3.3)	C57	D1	Nickel Plated Body	▲ 901-9881-RFX	1
	Angle Plug	Crimp	Solder	.128(3.3)	C57	D1	Gold Plated Body	▲ 901-9872	1
141, 223	Angle Plug	Crimp	Solder	.220(5.6)	C53	D1	Gold Plated Body	▲ 901-9874	1
141, 223	Low Profile Angle Plug	Crimp	Solder	.220(5.6)	C53	D1	Plated Body	901-9902	2

SMA BRASS BULKHEAD JACKS

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	CAI	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner						
174, 188, 316	Bulkhead Jack	Crimp	Solder	.128(3.3)	C53	D1	Gold Plated Body	▲ 901-9875	3
	Bulkhead Jack	Crimp	Solder	.128(3.3)	C53	D1	Nickel Plated Body	▲ 901-9879-RFX	3

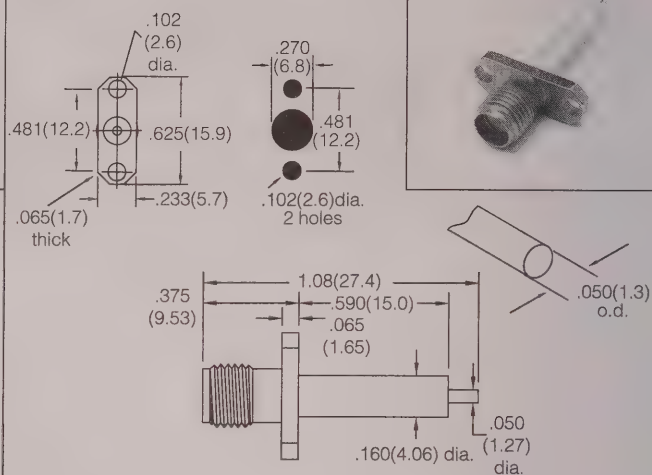
▲ distributor stocked

Fig. 1



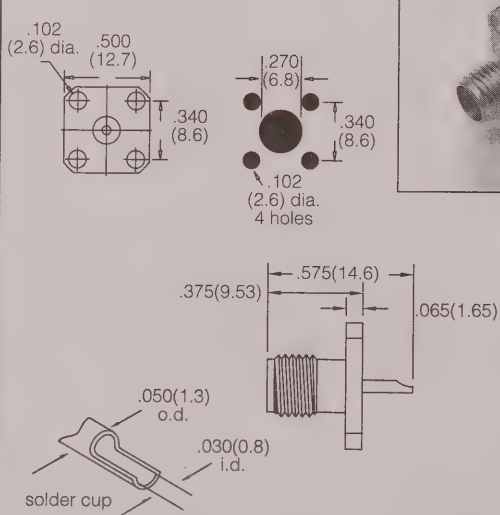
SMA Panel Receptacle (Jack)
Solder Cup terminal
901-9893-RFX▲
Nickel Plated

Fig. 2



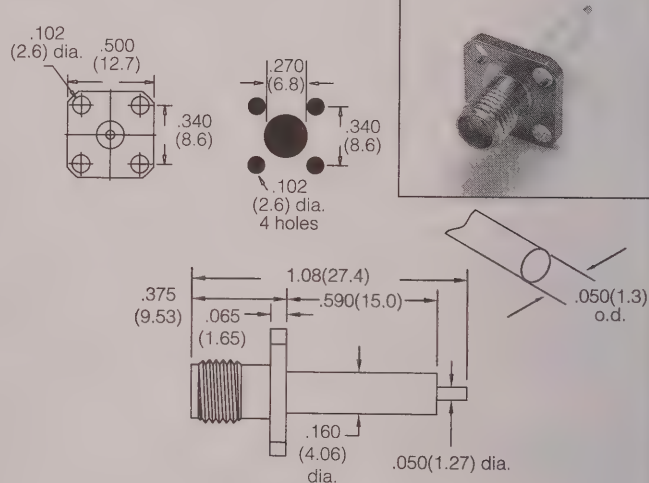
SMA Panel Receptacle (Jack)
Post terminal
901-9891-RFX▲
Nickel Plated

Fig. 3



SMA Panel Receptacle (Jack)
Solder Cup terminal
901-9892-RFX▲
Nickel Plated

Fig. 4



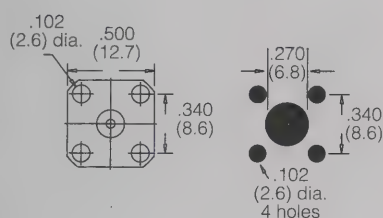
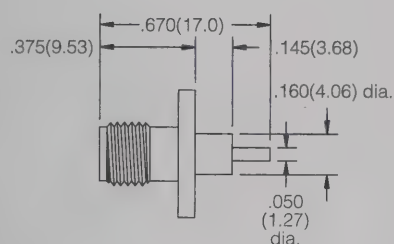
SMA Panel Receptacle (Jack)
Post terminal
901-9887-RFX▲
Nickel Plated

SMA BRASS PANEL PLUG RECEPTACLES

Connector Description	Terminal Type	Ins	Construction Notes	Amphenol Number	Fig.
Panel Receptacle (Jack)	Solder Cup	D1	Nickel Plated Body	▲ 901-9893-RFX	1
Panel Receptacle (Plug)	Post	D1	Nickel Plated Body	▲ 901-9891-RFX	2
Panel Receptacle (Plug)	Solder Cup	D1	Nickel Plated Body	▲ 901-9892-RFX	3
Panel Receptacle (Plug)	Post	D1	Nickel Plated Body	▲ 901-9887-RFX	4

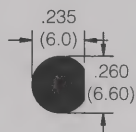
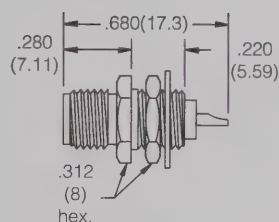
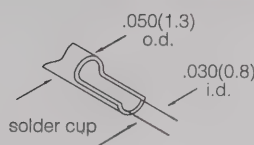
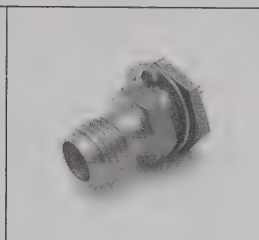
▲ distributor stocked

Fig. 1



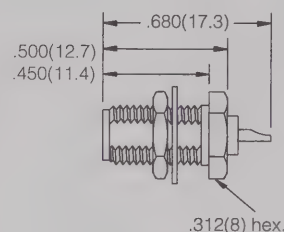
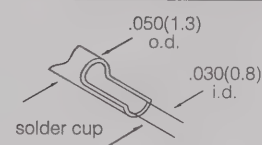
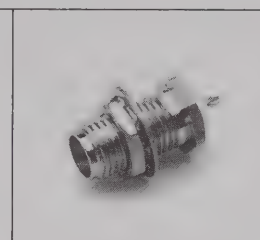
SMA Panel Receptacle (P)
Post terminal
901-9888
Gold Plated

Fig. 2

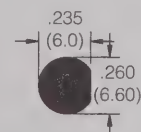


SMA Bulkhead Receptacle (J)
Solder Cup terminal
901-9889-RFX▲
Nickel Plated
Front Mount

Fig. 3



Maximum panel .126 (3.2mm)



SMA Bulkhead Receptacle (J)
Solder Cup terminal
901-9890-RFX▲
Nickel Plated
Rear Mount

SMA BRASS PANEL PLUG RECEPTACLES

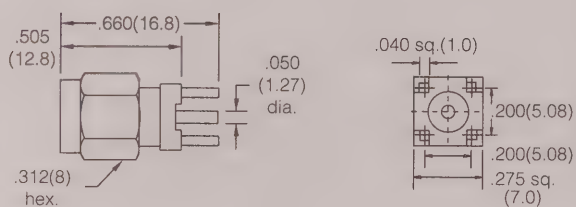
Connector Description	Terminal Type	Ins	Construction Notes	Amphenol Number	Fig.
Panel Receptacle (Plug)	Post	D1	Gold Plated Body	901-9888	1

SMA BRASS BULKHEAD RECEPTACLES

Connector Description	Terminal Type	Ins	Construction Notes	Amphenol Number	Fig.
Bulkhead Receptacle (Jack), Front Mount	Solder Cup	D1	Nickel Plated Body	▲ 901-9889-RFX	2
Bulkhead Receptacle (Jack), Rear Mount	Solder Cup	D1	Nickel Plated Body	▲ 901-9890-RFX	3

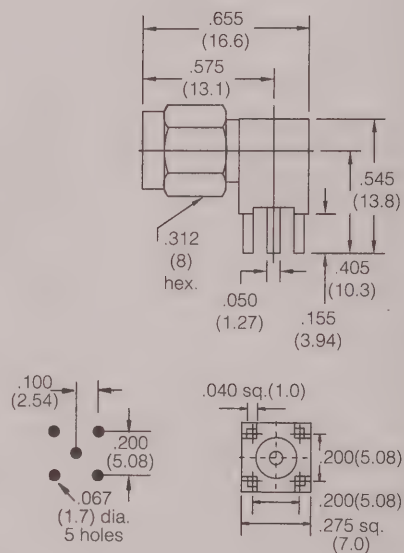
▲ distributor stocked

Fig. 1



SMA PCB Receptacle
(Plug)
Blunt Post Terminal
Four Legs
901-9895-RFX▲
Gold Plated

Fig. 2



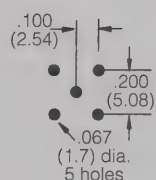
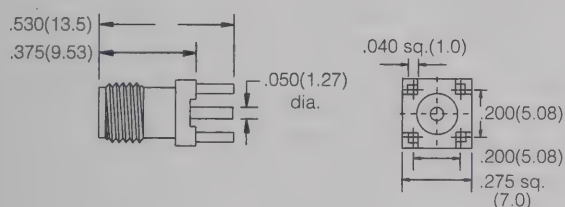
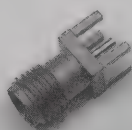
SMA PCB Angle Receptacle
(Plug)
Blunt Post Terminal
Four Legs
901-9894-RFX▲
Gold Plated

SMA BRASS PRINTED CIRCUIT BOARD PLUG RECEPTACES

Connector Description	Terminal Type	Ins	Construction Notes	Amphenol Number	Fig.
PCB Receptacle (P)/ Four Legs	Blunt Post	D1	Gold Plated Body	▲ 901-9895-RFX	1
PCB Angle Receptacle (P)/ Four Legs	Blunt Post	D1	Gold Plated Body	▲ 901-9894-RFX	2

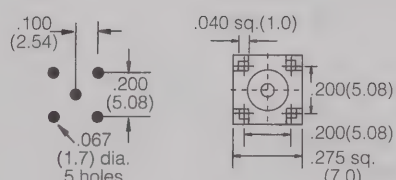
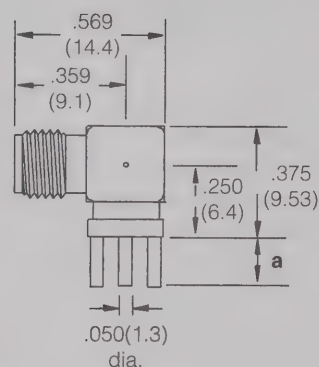
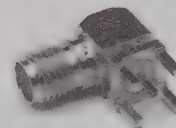
▲ distributor stocked

Fig. 1



SMA PCB Receptacle
(Jack)
Blunt Post Terminal
Four Legs
901-144-8RFX▲
Gold Plated

Fig. 2



SMA PCB Angle Receptacle
(Jack)
Blunt Post Terminal
Four Legs
901-143-6RFX▲
Gold Plated

SMA BRASS PRINTED CIRCUIT BOARD JACK RECEPTACLES

Connector Description	Terminal Type	Ins	Construction Notes	Amphenol Number	Fig.
PCB Receptacle (J)/ Four Legs	Blunt Post	D1	Gold Plated Body	▲ 901-144-8RFX	1
PCB Angle Receptacle (J)/ Four Legs	Blunt Post	D1	Gold Plated Body	▲ 901-143-6RFX	2

▲ distributor stocked

DESCRIPTION

For phase array radar, test equipment, ILS landing systems and other instrumentation using phase matching techniques, these SMA connectors for semi-rigid coaxial cables and the SMA plug-to-Jack adapter offer a precise and simple means of phase adjustment for microwave devices.

The connectors incorporate a threaded interconnection of variable length. Turning an adjustment nut creates incremental changes in connector length and hence phase angle. Once established, the proper phase setting for each cable is maintained by connector locking-nuts. For example, one revolution of the adjustment nut results in a phase angle change of 5.7° for a 9 GHz signal [0.636×9] $^\circ$.

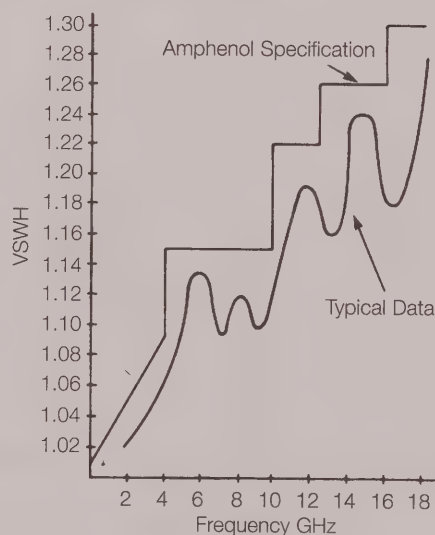
These connectors provide ease of mechanical screw adjustments, compared to the delays and expense of laborious cable-trimming, and they also allow phase matching to be performed at the final production stages.

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	DC-18GHz.
Insertion loss:	dB max. For Adapter 901-508 $= .1 \sqrt{f(\text{GHz})}$ For Plug 901-509 $= .08 \sqrt{f(\text{GHz})}$
VSWR	See chart below
Phase Angle Adjustment Range in degrees	For Adapter 901-508 and Plug 901-509, $= 0^\circ$ to $[10 \times f(\text{GHz})]^\circ$ max
Phase Angle change per revolution of Adjustment Nut in degrees	For Adapter 901-508 and Plug 901-509, $= [0.636 \times f(\text{GHz})]^\circ$
Voltage rating	500 VRMS peak

SWEPT VSWR DATA



MECHANICAL

Mating	Mating face dimensions compatible with the mating requirements of MIL-C-39012/55 (Type SMA)
Connector Durability	(SMA interface) 500 cycles of mating and unmating without deterioration

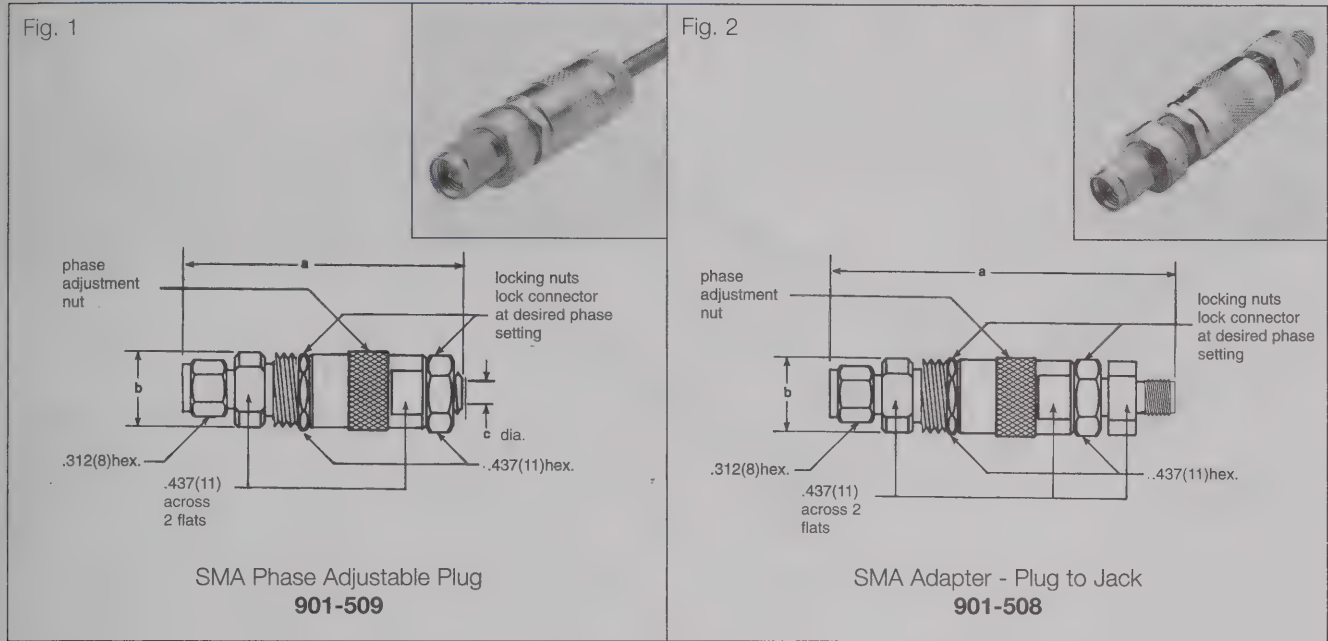
MATERIAL

Center Contact	Beryllium copper, Gold plated
Connector Body	Brass or Beryllium Copper, Gold plated
Adjusting Nuts and Locking Nuts	Brass with ASTRO plate finish
Connector Coupling Nut	Stainless Steel, Passivated
Insulation	TFE

ENVIRONMENTAL

Shock	MIL-Std. 202 method 213 (test cond. I)
Vibration	MIL-Std. 202 method 204 (test cond. D)
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature range	-65°C to + 125°C

* These characteristics are typical and may not apply to all connectors.

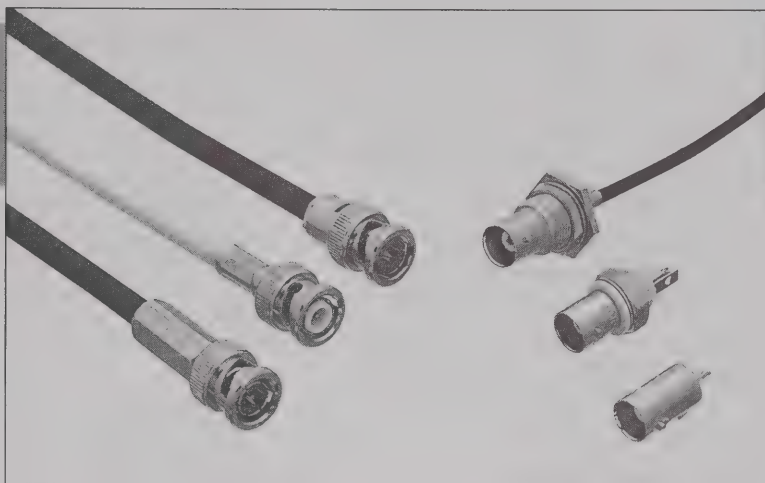


Description	Semi-Rigid Cable Size	Cable Termination	Dimensions, Inches (millimeters)				CAI	Plt.	Ins.	Amphenol Number	Fig.
			a		b	c					
			(Fully Extended)	(Fully Closed)							
Plug	.141"(3.6) dia.	Solder	2.03(51.6)	1.68(42.7)	.500(12.7)	.144(3.7)	C51	PCF	D1	901-509	1
Adapter	—	—	2.50(63.5)	2.15(54.6)	.500(12.7)	—	—	PCF	D1	901-508	2

Notes

Description

BNC connectors are miniature units, light in weight and feature a quick disconnect bayonet lock coupling mechanism. One of the most widely used connector interfaces in the industry today, Amphenol's BNC connectors are available in a number of termination styles and accommodate a variety of popular coaxial cables.



Applications

- Computers/LANs
- Instrumentation
- Test and Measurement
- Medical Equipment
- Broadcast (75Ω)

Features/Benefits

BNC connectors with a 50 ohm nominal impedance are designed for use in telecommunication, datacommunication and test and instrumentation equipment. BNC connectors with a 75 ohm nominal impedance are designed for broadcast, video and other applications which require impedance matched performance. All Amphenol 50 ohm and 75 ohm BNC connectors are intermateable.

Each BNC connector is considered to be weatherproof when used only in combination with other Amphenol BNC connectors.

50 ohm

Specifications	68-69
Cable Plugs	70-73
Cable Jacks	74-75
Receptacles	76-77
PCB Receptacles	78-80
Adapters	81-83
Caps & Accessories	84

75 ohm

Specifications	85-86
Plugs	87
Jacks & Receptacles	88
PCB Receptacles	89-91
Adapters	92-93

Series 456

Filtered PCB Receptacles	94-95
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Description

Amphenol 50 ohm BNC connectors are miniature, lightweight units designed to operate up to 11 GHz and typically yield low reflection through 4 GHz. Designed to accommodate a large variety of RG and industry standard cables, BNC connectors are available in crimp-crimp, clamp-solder, SURETWIST®, and field serviceable termination styles. A full line of printed circuit board receptacles, bulkhead receptacles, resistor terminations, and other accessories complement the product offering.

Applications

- Computers/LANs
- Test and Measurement
- Medical Equipment

Features/Benefits

Amphenol manufactures a full line of BNC connectors to meet all users' needs. Parts which are listed with the appropriate M39012 number in the catalog are **Military Grade** connectors produced in accordance with and actively qualified to the military specification MIL-C-39012. Connectors not listed with the M39012 number constitute the **Industrial Grade** product offering. These connectors provide comparable performance and generally feature nickel plated brass bodies, Teflon insulators, and either gold or silver plated center contacts. Amphenol's **Commercial Grade** connector offering carries the part number designation "RFX" for easy recognition. These low cost connectors typically utilize diecast and molded components. While performance will not be equal to the Industrial or Military grade products, these connectors are ideal for use on a variety of commercial applications.

Amphenol's 50 ohm BNC connectors (where indicated) are recognized under the Component Program of Underwriter's Laboratories, Inc. They are ideal for use with medical equipment and test instrumentation where safety cannot be compromised.

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms nominal ■
Frequency range	0-4 GHz w/low reflection, usable to 11 GHz
Voltage rating	500 volts peak
Dielectric withstanding voltage	1,500 volts rms.
VSWR	M39012 straight connectors: 1.3 max. 0-4 GHz M39012 right angle: 1.35 max. 0-4 GHz
Other (MIL-C-39012 cable connectors)	Contact resistance: center contact 1.5 milliohm outer contact 0.2 milliohm Braid to body 0.1 milliohm RF leakage: - 55 dB minimum at 3 GHz Insertion loss: 0.2 dB maximum at 3 GHz Insulation resistance: 5000 megohms (min.)

MECHANICAL

Mating	2-stud bayonet coupling per M39012
Cable affixment (braid or jacket)	All crimps: hex braid crimp. Clamps: screw-thread nut and braid clamp.
Cable affixment (center conductor)	Crimps: crimp or solder All others: solder only
Captivated contact	All crimps Others: where specified.
Cable retention	Crimps: 20-100 lbs. All others: 30-70 lbs.

MATERIAL

Center contacts	Male: brass Female: Beryllium copper or phosphor bronze. Silver or gold plated
Other metal parts	Brass, Nickel finish except M39012 silver.
Insulators	TFE; copolymer of styrene, glass-TFE (hermetically sealed)
Clamp gaskets	Synthetic rubber, Silicone rubber
Crimp ferrule	Copper

ENVIRONMENTAL

Temperature range	TFE insulators: - 65°C to + 165°C Copolymer of Styrene: - 55°C to + 85°C
Weatherproof	Clamps with clamp gaskets. Crimps with heat-shrink tubing.
Hermetic seals	Pass helium leak test of 2 X 10 ⁻⁸ cc/sec
Shock	MIL-Std. 202 method 202
Vibration	MIL-Std. 202 method 204 (test cond. D)
Moisture resistance	MIL-Std. 202 method 106
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature cycling	MIL-Std. 202 method 102 (test cond. D)
Altitude	MIL-Std. 202 method 105 (test cond. C)

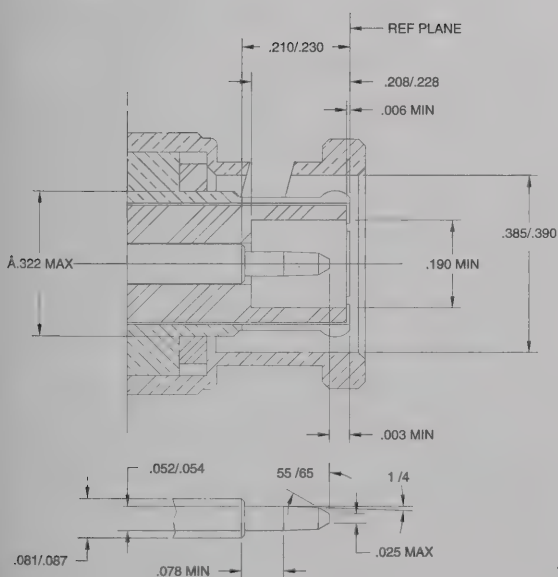
MILITARY SPECIFICATIONS

MIL-C-39012	Where applicable
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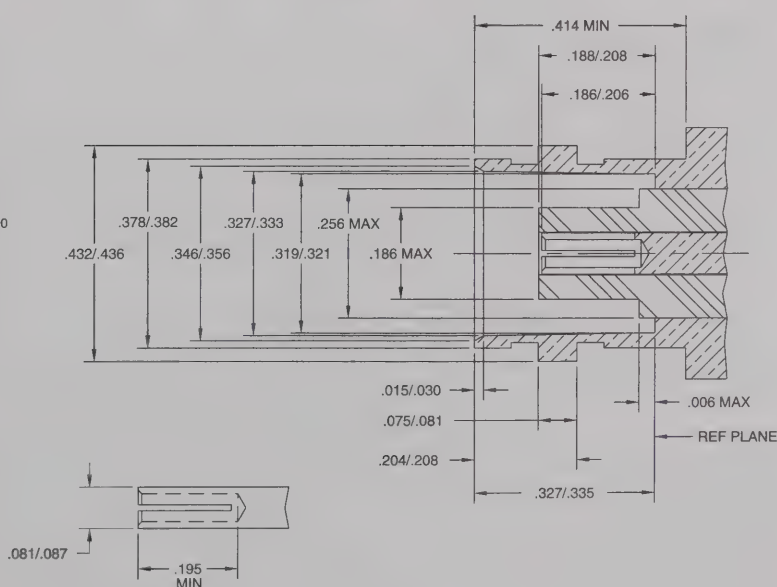
* These characteristics are typical and may not apply to all connectors.

■ Also see 75 ohm BNC connectors in the following section

BNC PLUG



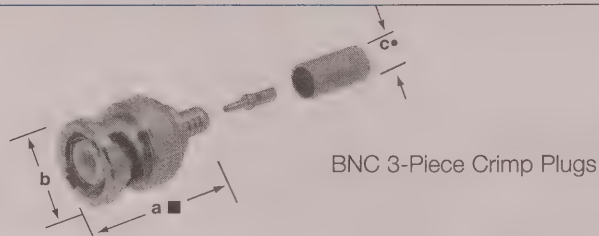
BNC JACK



BNC 50 ohm 3-Piece Cable Crimp Plugs

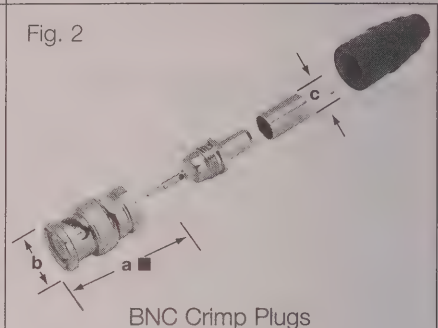
Amphenol®

Fig. 1



36650-1003	68175-5RFX	31-320-1006	31-326	31-5557-RFX†
36650-3RFX	31-242	31-320-RFX	31-326-RFX	31-5558-RFX
36875	31-242-RFX	31-321	31-4320	31-5560-RFX†
68175-1003	31-315	31-321-1000	31-4321	
68175-1005	31-315-1005	31-321-RFX	31-4411	
68175-1011	31-315-RFX	31-321-10RFX	31-4427	
68175-11RFX	31-320	31-325	31-5556-RFX†	

Fig. 2



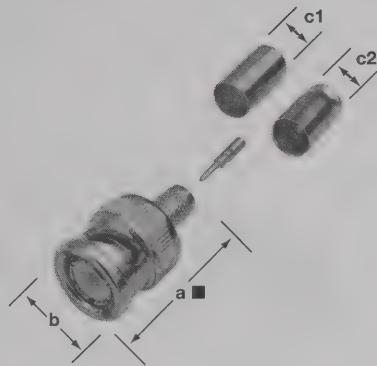
31-351
31-359
31-371

BNC 3-PIECE CRIMP CABLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a ■	b	c •	CAI	Plt.	Ins.			
6 TYPE (.314 OD)	Crimp	Crimp	1.17(29.7)	.571(14.5)	.314(8.0)	C26	P7	D23	—	31-5558-RFX	1
55, 142, 223, 400	Crimp	Crimp	1.27(32.1)	.563(14.3)	.220(5.59)	C26	P15	D1	—	36875*	1 ▲
	Crimp	Crimp	1.20(30.5)	.563(14.3)	.220(5.59)	C26	P15	D1	M23329/3-02,3-04	31-326*	1 ▲
	Crimp	Crimp	1.11(28.2)	.563(14.3)	.220(5.59)	C26	P7	D26	—	31-326-RFX	1
	Crimp	Press Fit	1.31(33.3)	.571(14.5)	.212(5.4)	C7R	P7	D23	—	31-5557-RFX†	1
58, 141	Crimp	Crimp	1.11(28.2)	.563(14.3)	☆	C26	P15	D26	—	31-5800	☆ ▲
	Crimp	Crimp	1.11(28.2)	.562(14.3)	.206(5.2)	C26	P15	D1	M23329/3-01,3-03	31-320*	1 ▲
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.210(5.3)	C26	P7	D26	—	31-320-RFX	1 ▲
	Crimp	Solder	1.47(37.3)	.562(14.3)	.206(5.2)	C26b	P15	D1	—	31-351*	2
	Crimp	Crimp	1.09(27.8)	.563(14.3)	.206(5.23)	C26	P33	D1	M39012/16-0013	31-4320*	1 ▲
Plenum 58	Crimp	Crimp	1.28(32.6)	.571(14.5)	.181(4.6)	C26	P7	D26	—	36650-3RFX	1 ▲
59	Crimp	Press Fit	1.31(33.3)	.571(14.5)	.260(6.6)	C7R	P7	D23	—	31-5556-RFX†	1 ▲
59, 62, 140, 210, 302	Crimp	Crimp	1.11(28.2)	.563(14.3)	☆	C26	P15	D26	—	31-5900	☆ ▲
	Crimp	Crimp	1.12(28.5)	.562(14.3)	.261(6.6)	C26	P15	D1	M23329/3-05	31-321*	1 ▲
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C26	P7	D26	—	31-321-RFX	1 ▲
	Crimp	Solder	1.47(37.3)	.563(14.3)	.261(6.6)	C26b	P15	D1	—	31-359*	2
	Crimp	Crimp	1.12(28.5)	.562(14.3)	.261(6.6)	C26	P33	D1	M39012/16-0015	31-4321	1 ▲
59 (20 AWG Ctr. Cond.)	Crimp	Crimp	1.11(28.2)	.562(14.3)	.261(6.6)	C26	P15	D1	—	68175-1005	1 ▲
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C26	P7	D26	—	68175-5RFX	1 ▲
142, 400	Crimp	Crimp	1.11(28.2)	.563(14.3)	.220(5.6)	C26	P33	D1	M39012/16-0503	31-4427*	1 ▲
Plenum 59, 62	Crimp	Crimp	1.28(32.6)	.571(14.5)	.212(5.4)	C26	P7	D26	—	68175-11RFX	1 ▲
	Crimp	Press Fit	1.31(33.3)	.571(14.5)	.212(5.4)	C7R	P7	D23	—	31-5560-RFX†	1
174, 179, 187, 188, 316	Crimp	Solder	1.34(34.1)	.563(14.3)	.128(3.25)	C26b	P15	D9	—	31-371*	2 ▲
174, 188, 316	Crimp	Crimp	1.19(30.2)	.562(14.3)	.125(3.2)	C26	P15	D1	—	31-315	1 ▲
	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C26	P7	D23	—	31-315-RFX	1 ▲
179, 187	Crimp	Crimp	1.19(30.2)	.562(14.3)	.117(3.0)	C26	P15	D1	—	31-242*	1 ▲
	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C26	P7	D23	—	31-242-RFX	1 ▲
Dbl. Br. RG-316	Crimp	Crimp	1.11(28.2)	.562(14.3)	.135(3.4)	C26	P16	D1	—	31-315-1005	1
Belden 8213	Crimp	Crimp	1.59(40.5)	.562(14.3)	.418(10.6)	C26	P17	D1	—	31-4411	1
Belden 8218	Crimp	Crimp	1.11(28.2)	.562(14.3)	.175(4.4)	C26	P15	D1	—	31-325*	1 ▲
Belden 8281, 88281	Crimp	Crimp	1.21(30.7)	.562(14.3)	.342(8.7)	C26	P15	D1	—	31-321-1000*	1 ▲
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.334(8.5)	C26	P7	D26	—	31-321-10RFX	1 ▲
Belden 9259	Crimp	Crimp	1.11(28.2)	.562(14.3)	.261(6.6)	C26	P15	D1	—	68175-1003	1 ▲
Belden 9907, 89907	Crimp	Crimp	1.11(28.2)	.562(14.3)	.196(5.0)	C26	P15	D1	—	31-320-1006	1 ▲
Belden 1560A, 82259, 89259, Plenum 59, 62	Crimp	Crimp	1.11(28.2)	.563(14.3)	.220(5.6)	C26	P15	D1	—	68175-1011	1 ▲
Belden 82907, 88240, 89907, Plenum 58	Crimp	Crimp	1.11(28.2)	.563(14.3)	.175(4.4)	C26	P15	D1	—	36650-1003	1 ▲

* recognized under the component program of U.L., Inc. • accommodates cable diameter ☆ see Fig. 1 and table on page 71. ▲ distributor stocked
■ includes outer ferrule † features preinstalled center contact

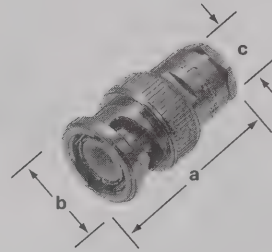
Fig. 1



BNC Crimp Plugs for Networking

31-5800
31-5900

Fig. 2



BNC Clamp Plugs

6775	84975	31-212-1005
9350	31-2	31-212-RFX
15875	31-2-RFX	31-3202
16300	31-202	31-3301
69475	31-212	31-3302

BNC CRIMP-CRIMP CABLE PLUGS FOR NETWORKING

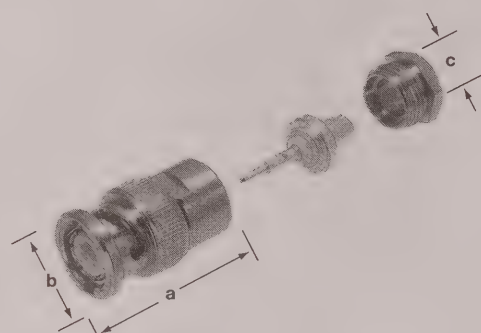
Cable RG-/U	Dimensions, inches (millimeters)				Notes			Amphenol Number	Fig.
	a ■	b	c • 1	c • 2	CAI	Plt.	Ins.		
58, 58A, 58B, 58C, 141, Plenum 58, Belden 9907, 89907, Comscope 2104K, 2135, 3104	1.11(28.2)	.563(14.3)	.209(5.3)	.181(4.60)	C26	P15	D26	31-5800	1 ▲
59 & 62, RG-59 20GACC, Plenum 59 & 62; Belden 1515A, 8212, 8221, 8241, 8241A, 8241F, 8263, 8279A, 9100, 9209, 9209A, 9240, 9244, 9259, 9274, 9275, 9659, 1426A, 82108, 88241, 82241, 89259, 82259, 1506A; AT&T 734A; Comscope 5553, 2020K, 3037V, 2249K	1.11(28.2)	.563(14.3)	.261(6.6)	.220(5.59)	C26	P15	D26	31-5900	

BNC CLAMP CABLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a ■	b	c •	CAI	Plt.	Ins.			
6	Clamp	Solder	1.25(31.8)	.563(14.3)	.348(8.8)	C25	P1	D6	—	9350*	2 ▲
8, 9, 11, 213, 214	Clamp	Solder	1.66(42.1)	.688(17.5)□	.437(11.1)	C25	P1	D1	UG-959/U	6775*	
55, 58, 141, 142, 223, 400	Clamp	Solder	1.06(27.0)	.562(14.3)	.224(5.7)	C25	P1	D1	UG-88C/U	31-202*	
	Clamp	Solder	1.06(27.0)	.563(14.3)	.221(5.6)	C25	P1	D1	UG88E/U	31-3202*	
58, 141, 142, 400	Clamp	Solder	.969(24.6)	.563(14.3)	.212(5.38)	C25	P1	D1	UG-88/U	31-2*	
	Clamp	Solder	1.07(27.2)	.571(14.5)	.212(5.38)	C25	P7	D23	—	31-2-RFX	
	Clamp	Solder	1.06(27.0)	.563(14.3)	.224(5.7)	C25	P33	D1	M39012/16-0101	31-3301*	
59, 62, 71, 140, 210, 302	Clamp	Solder	1.10(27.9)	.562(14.3)	.255(6.5)	C25	P1	D1	UG260B/U	31-212*	
	Clamp	Solder	1.07(27.2)	.571(14.5)	.256(6.5)	C25	P7	D23	—	31-212-RFX	
	Clamp	Solder	1.06(27.0)	.563(14.3)	.255(6.5)	C25	P33	D1	M39012/16-0102	31-3302*	
59 (20GA CC)	Clamp	Solder	1.06(27.0)	.563(14.3)	.255(6.48)	C25	P1	D1	—	31-212-1005	
122	Clamp	Solder	1.06(27.0)	.563(14.3)	.177(4.5)	C25	P1	D1	UG1033/U	84975*	
174, 179, 187, 188, 316	Clamp	Solder	1.06(27.0)	.563(14.3)	.116(2.9)	C25	P1	D1	—	69475*	
178, 196	Clamp	Solder	1.00(25.4)	.563(14.3)	.094(2.39)	C25	P1	D9	—	15875*	
180	Clamp	Solder	1.00(25.4)	.563(14.3)	.150(3.81)	C25	P1	D9	—	16300*	

□ "b" dimension is body O.D. • accommodates cable diameter ▲ distributor stocked * recognized under the component program of U.L., Inc.
■ includes outer ferrule

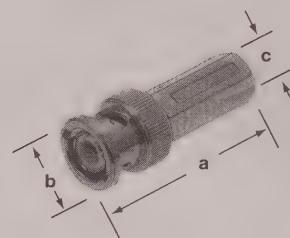
Fig. 1



50Ω BNC QUICKTRIM® Plugs

31-30220-1
31-30220-8
31-4541
31-4541-RFX
31-4542

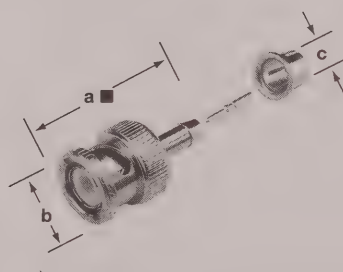
Fig. 2



BNC SURETWIST® Plugs

31-5136
31-5136-RFX
31-5137
31-5137-RFX

Fig. 3



BNC FCP Plugs

31-4700
31-4702

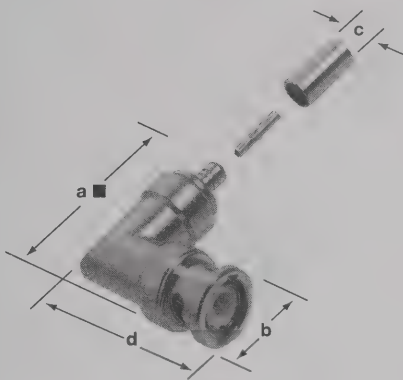
BNC CABLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a ■	b	c •	CAI	Plt.	Ins.			
58 B/U	SURETWIST®		1.47(37.3)	.562(14.3)	.181(4.6)	C28	P5	D15	—	31-5137	2
	SURETWIST®		1.48(37.6)	.571(14.5)	.185(4.7)	C28	P7	D23	—	31-5137-RFX	2
58	FCP	Pliers	1.06(27.0)	.563(14.3)	.206(5.23)	C30	P1	D1	—	31-4700*	3
	QUICKTRIM®		1.06(27.0)	.563(14.3)	.207(5.3)	C29	P1	D1	—	31-30220-1	1
59	QUICKTRIM®		1.03(26.2)	.562(14.3)	.252(6.2)	C29	P1	D1	(IBM 1836444)	31-4541	1
	QUICKTRIM®		1.03(26.2)	.562(14.3)	.252(6.2)	C29	P7	D23	—	31-4541-RFX	1
	SURETWIST®		1.47(37.3)	.562(14.3)	.242(6.1)	C28	P5	D15	—	31-5136	2
	SURETWIST®		1.48(37.6)	.571(14.5)	.242(6.1)	C28	P7	D23	—	31-5136-RFX	2
	FCP	Pliers	1.06(27.0)	.563(14.3)	.259(6.56)	C30	P1	D1	—	31-4702*	3
223	QUICKTRIM®		1.06(27.0)	.563(14.3)	.225(5.7)	C29	P1	D1	—	31-30220-8	1
Belden 9268	QUICKTRIM®		1.06(27.0)	.563(14.3)	.275(6.99)	C29	P1	D1	(IBM 1836447)	31-4542	1

• accommodates cable diameter * recognized under the component program of U.L., Inc.

▲ distributor stocked ■ includes outer ferrule

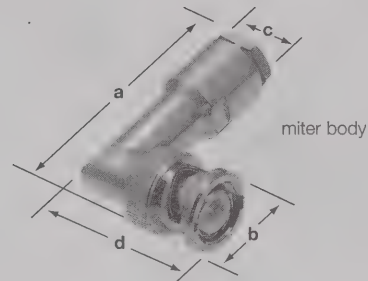
Fig. 1



BNC Crimp Angle Plugs

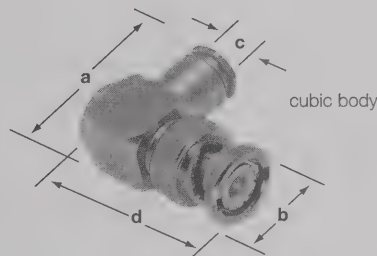
31-316
31-334
31-335
31-335-RFX
31-336
31-336-RFX

Fig. 2



BNC Clamp Angle Plug
31-204

Fig. 3



BNC Clamp Angle Plugs

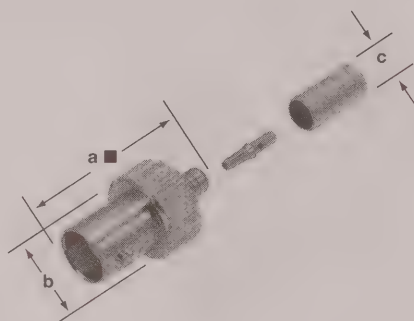
8525
8575
33275
31-850

BNC ANGLE CABLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c *	d	CAI	Plt.	Ins.			
55, 142, 223, 400	Crimp	Crimp	1.19(30.2)■	.562(14.3)	.220(5.6)	1.59(40.5)	C26a	P15	D1	—	31-334*	1
55, 58, 141, 142, 223, 400	Clamp	Solder	1.68(42.7)■	.562(14.3)	.214(5.5)	1.09(27.8)	C25	P1	D1	UG-913/U	31-204*	2
58, 141	Crimp	Crimp	1.59(40.5)■	.562(14.3)	.206(5.2)	1.19(30.2)	C26a	P15	D1	—	31-335*	1 ▲
	Crimp	Crimp	1.66(42.2)■	.571(14.5)	.210(5.3)	1.07(27.2)	C26a	P7	D23	(Cubic Body)	31-335-RFX	1
58, 141, 142, 400	Clamp	Solder	1.00(25.4)■	.562(14.3)	.212(5.4)	1.25(31.8)	C25	P1	D1	(Cubic Body)	8525*	3
59, 62, 71, 140, 210	Clamp	Solder	1.00(25.4)	.562(14.3)	.259(6.6)	1.25(31.8)	C25	P1	D1	—	8575*	3
	Clamp	Solder	1.25(31.6)	.562(14.3)	.259(6.6)	1.03(26.2)	C25	P1	D6	(Cubic Body)	31-850*	3 ▲
59, 62, 140, 210	Crimp	Crimp	1.59(40.5)■	.562(14.3)	.259(6.6)	1.19(30.2)	C26a	P15	D1	—	31-336	1 ▲
	Crimp	Crimp	1.66(42.2)■	.571(14.5)	.260(6.6)	1.07(27.2)	C26a	P7	D23	(Cubic Body)	31-336-RFX	1
174, 179, 187, 188	Clamp	Solder	1.25(31.6)	.562(14.3)	.115(2.9)	1.00(25.4)	C25	P1	D1	(Cubic Body)	33275*	3
174, 188, 316	Crimp	Crimp	1.19(30.2)■	.562(14.3)	.115(2.9)	1.59(40.5)	C26a	P15	D1	—	31-316*	1 ▲

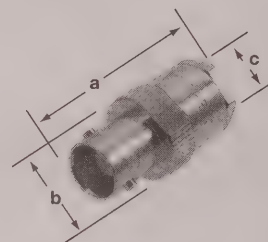
■ includes outer ferrule • accommodates cable diameter * recognized under the component program of U.L., Inc. ▲ distributor stocked

Fig. 1



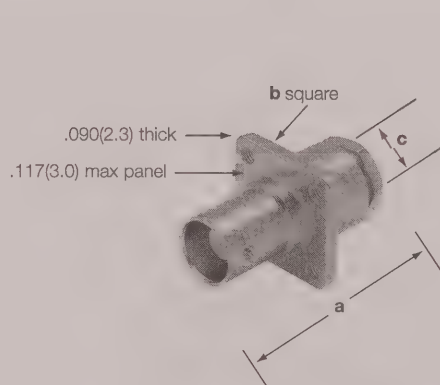
BNC Crimp Jacks
36800
36800-RFX
68150
31-317
31-4327

Fig. 2

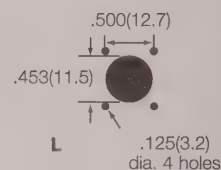


BNC Clamp Jack
31-15

Fig. 3



BNC Panel Jack
86425

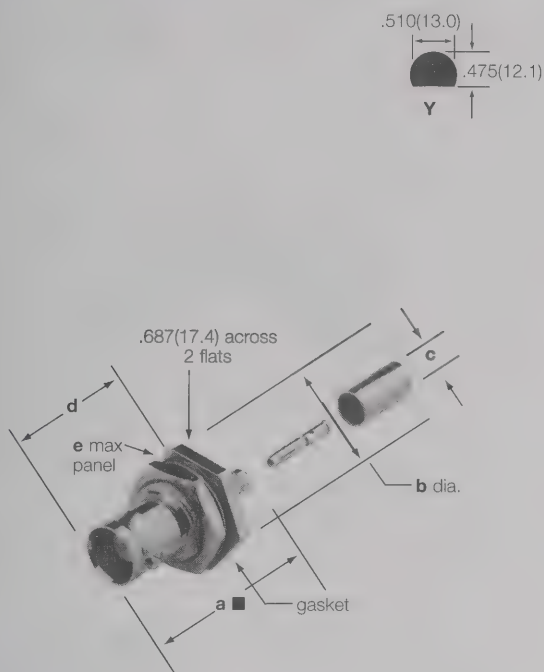


BNC CABLE JACKS

Cable RG/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a ■	b	c •	CAI	Plt.	Ins.			
58, 141	Crimp	Crimp	1.17(29.8)	.562(14.3)	.206(5.2)	C26a	P33	D1	M39012/17-0013	31-4327*	1
	Crimp	Crimp	1.17(29.7)	.510(13.0)	.206(5.2)	C26a	P15	D1	—	36800*	1
	Crimp	Crimp	1.32(33.5)	.435(11.0)	.210(5.3)	C26a	P7	D23	—	36800-RFX	1
59, 62, 71, 140, 210	Clamp	Solder	1.14(29.0)	.562(14.3)	.259(6.6)	C25	P1	D1	UG-261/U	31-15*	2
223	Clamp	Solder	1.14(29.0)	.562(14.3)	.220(5.0)	C25	P1	D1	UG-89/U	31-5	2
174, 188, 316	Crimp	Crimp	1.39(35.3)	.562(14.3)	.125(3.2)	C26a	P15	D1	—	31-317*	1
174, 179, 187, 188, 316	Clamp	Solder	1.14(29.0)	.687(17.5)	.117(3.0)	C25	P1	D1	—	86425*	3
59, 62, 140, 210	Crimp	Crimp	1.18(30.0)	.510(13.0)	.261(6.6)	C26a	P15	D1	—	68150*	1

• accommodates cable diameter * recognized under the component program of U.L., Inc. ▲ distributor stocked ■ includes outer ferrule

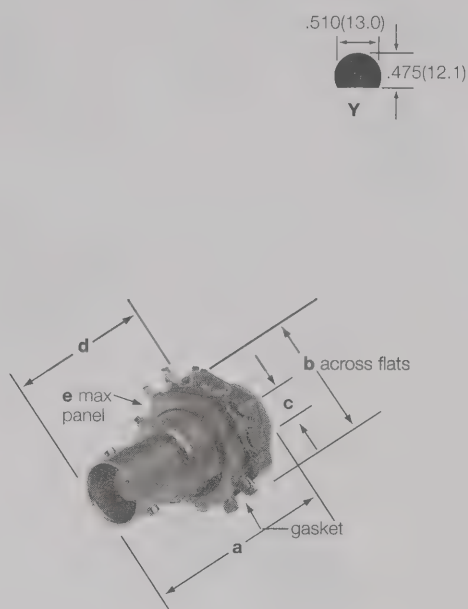
Fig. 1



BNC Crimp Bulkhead Jacks

95700	31-318-RFX
31-245	31-342
31-245-RFX	31-342-RFX
31-318	31-343-1002
31-318-1001	31-343-RFX

Fig. 2



BNC Clamp Bulkhead Jacks

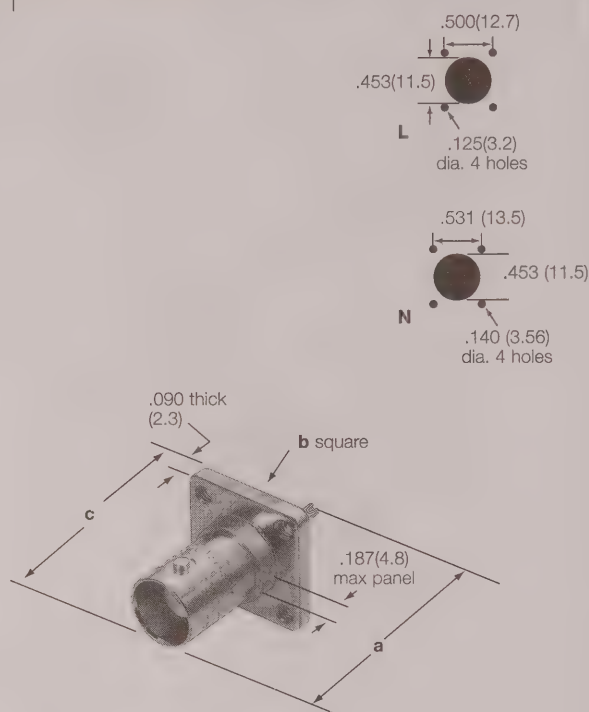
86350
86850
31-206
31-207

BNC BULKHEAD CABLE JACKS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)					CAI	Plt.	Ins.	Mtg. Hole	Military Number	Amphenol Number	Fig.
	Outer	Inner	a ■	b	c •	d	e							
55, 142, 223	Crimp	Crimp	1.41(35.8)	.795(20.2) dia	.220(5.6)	.812(20.6)	.250(6.4)	C26a	P17	D1	Y	—	95700*	1
58, 141	Crimp	Crimp	1.41(35.7)	.795(20.2) dia	.206(5.2)	.812(20.6)	.250(6.4)	C26a	P15	D1	Y	M23329/3-15,3-17	31-342	1
58, 141, 142, 223	Crimp	Crimp	1.38(35.1)	.687(17.5) hex	.210(5.3)	.709(18.0)	.138(3.5)	C26a	P7	D23	Y	—	31-342-RFX	1
58, 141, 142, 400	Clamp	Solder	1.12(28.6)	.687(17.6) hex	.224(5.7)	.798(20.3)	.218(5.5)	C25	P1	D1	Y	UG-909/U	31-206*	2
59, 62, 140, 210	Clamp	Solder	1.12(28.6)	.687(17.6) hex	.257(6.5)	.798(20.3)	.218(5.5)	C25	P1	D1	Y	UG-910/U	31-207*	2
	Crimp	Crimp	1.38(35.1)	.687(17.5) hex	.260(6.6)	.709(18.0)	.138(3.5)	C26a	P7	D23	Y	—	31-343-RFX	1
Plenum 59 (20 AWG)	Crimp	Crimp	1.41(35.8)	.795(20.2) dia	.220(5.6)	.812(20.6)	.250(6.4)	C26a	P15	D1	Y	—	31-343-1002	1
174,179,187,188,316	Clamp	Solder	1.14(29.0)	.687(17.5) hex	.115(2.9)	.798(20.3)	.250(6.4)	C25	P1	D1	Y	—	86350*	2
174, 188, 316	Crimp	Crimp	1.48(37.0)	.795(20.2) dia	.120(3.0)	.812(20.6)	.250(6.4)	C26a	P16	D1	Y	—	31-318*	1
	Crimp	Crimp	1.43(36.4)	.687(17.5) hex	.106(2.7)	.812(20.6)	.138(3.5)	C26a	P7	D23	Y	—	31-318-RFX	1
178, 196	Clamp	Solder	1.14(29.0)	.687(17.5) dia	.098(2.5)	.798(20.3)	.250(6.4)	C25	P1	D1	Y	—	86850*	2
179, 187	Crimp	Crimp	1.49(37.8)	.795(20.2) dia	.120(3.0)	.812(20.6)	.250(6.4)	C26a	P15	D1	Y	—	31-245*	1
	Crimp	Crimp	1.43(36.3)	.687(17.4) hex	.106(2.7)	.709(18.0)	.138(3.5)	C26a	P7	D23	Y	—	31-245-RFX	1
Dbl. Br. 316	Crimp	Crimp	1.41(35.8)	.795(20.2) dia	.135(3.42)	.812(20.6)	.250(6.4)	C26a	P15	D1	Y	—	31-318-1001	1

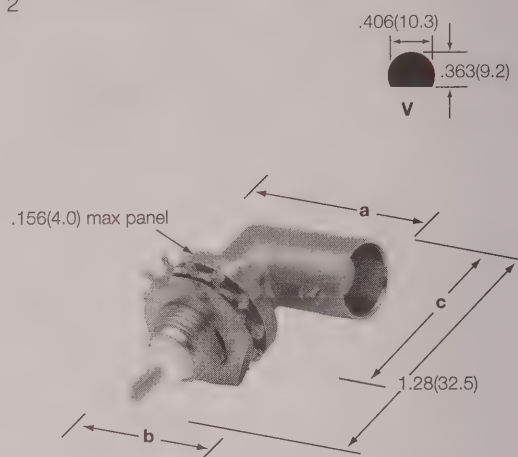
• accommodates cable diameter * recognized under the component program of U.L., Inc. ▲ distributor stocked ■ includes outer ferrule

Fig. 1



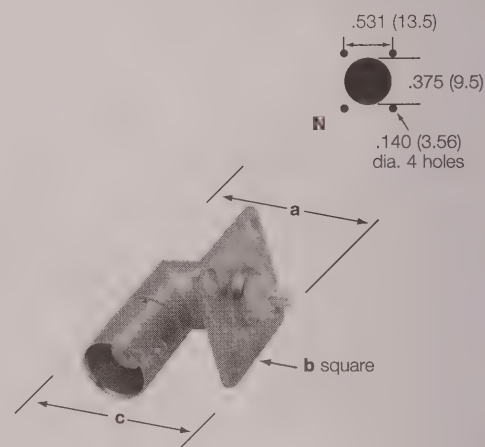
BNC Panel Receptacles
4 hole Square Flange, Rear or Front Mount
4500
31-105
31-203
31-203-RFX

Fig. 2



BNC Angle Bulkhead Receptacle
31-222

Fig. 3



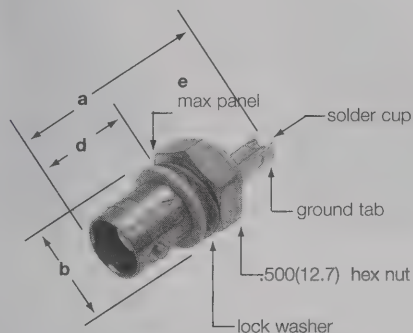
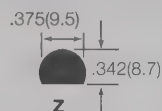
BNC Angle Panel Receptacle
5675

BNC PANEL AND ANGLE BULKHEAD RECEPTACLES

Description	Terminal Type	Dimensions, inches (millimeters)			Notes		Mtg. Hole	Military Number	Amphenol Number	Fig.
		a	b	c	Plt.	Ins.				
Panel Receptacle 4 hole Square Flange No. 3-56 Tapped Flange Holes	Solder Cup	1.06(27.0)	.687(17.5)	.719(18.3)	P1	D1	L	UG-290A/U	31-203	1
Panel Receptacle 4 hole Square Flange .125" Dia. Flange Holes	Solder Cup	1.06(27.0)	.687(17.5)	.719(18.3)	P7	D23	L	—	31-203-RFX	
Panel Receptacle 4 hole Square Flange .120" Dia. Flange Holes, Styrene Ins.	Solder Cup	1.03(26.2)	.687(17.5)	.719(18.3)	P1	D6	L	—	31-105*	
Panel Receptacle 4 hole Square Flange .136" Dia. Flange Holes, Styrene Ins.	Turret	1.08(27.4)	.750(19.1)	.609(15.5)	P1	D6	N	UG-185/U	4500*	2
Angle, External Tooth Lockwasher	Solder Cup	.906(23.0)	.594(15.1)	.625(15.8)	P1	D1	V	UG-1098/U	31-222* □	
Angle Panel Receptacle 4 hole Flange .136"(3.5mm) Diameter Holes	Solder Cup	.928(23.6)	.642(16.3)	.642(16.3)	P1	D1	N	UG-535/U	5675*	

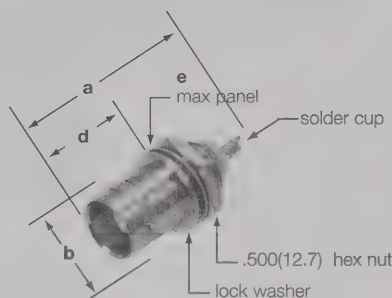
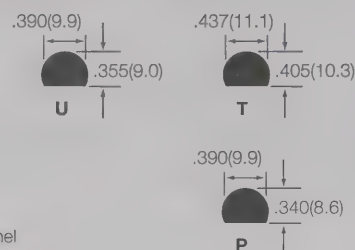
* recognized under the component program of U.L., Inc. ▲ distributor stocked □ IBM 01620666

Fig. 1



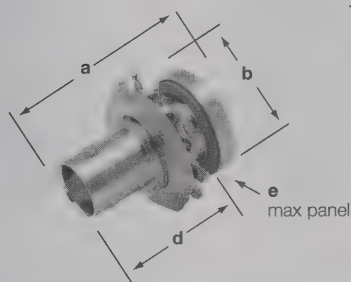
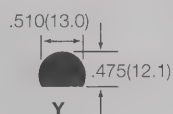
BNC Bulkhead Receptacle
Isolated from Panel,
Solder Cup & Ground Tab
Front Mount
31-10
31-10-RFX

Fig. 2



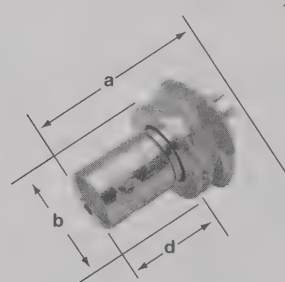
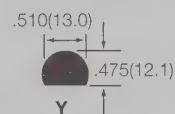
BNC Bulkhead Receptacles
Front Mount
5575 **31-238**
31-102 **31-239**
31-221 **31-2221**
31-221-RFX **31-3376**
31-236 **31-4238**

Fig. 3



BNC Bulkhead Receptacle
Rear Mount
31-4237

Fig. 4



BNC Bulkhead Receptacle
Isolated From Panel
Front Mount
31-4890-1

BNC BULKHEAD RECEPTACLES

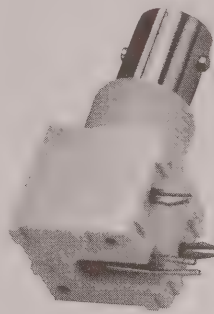
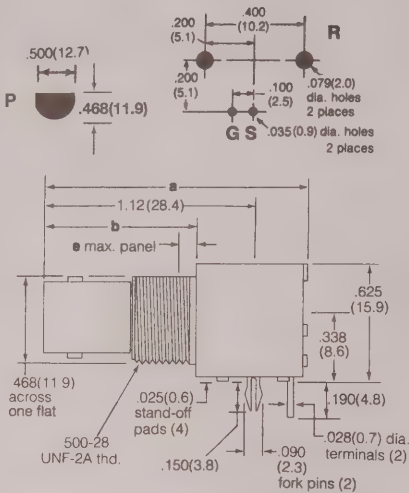
Description	Terminal Type	Dimensions, inches (mm)				Notes		Mtg. Hole	Military Number	Amphenol Number	Fig.
		a	b	d	e	Plt.	Ins.				
Front Mount, Isolated from Panel	Solder Cup	1.19(30.2)	.500(12.7)	.471(12.0)	.187(4.8)	P1	D22	Z	—	31-10*	1 ▲
	Solder Cup	1.18(30.0)	.500(12.7)	.471(12.0)	.125(3.2)	P7	D22	Z	—	31-10-RFX	1 ▲
Front Mount	Solder Cup	1.06(27.0)	.500(12.7)	.484(12.3)	.125(3.2)	P1	D1	U	UG-1094/U	31-221*	2 ▲
		1.14(29.0)	.512(13.0)	.495(12.6)	.125(3.2)	P7	D23	U	—	31-221-RFX†	2 ▲
		1.06(27.0)	.500(12.7)	.469(11.9)	.156(4.0)	P1	D1	T	UG-625B/U	31-236*	2 ▲
		1.19(30.2)	.500(12.7)	.481(12.3)	.250(6.4)	P1	D1	U	UG-1094A/U	31-2221	2 ▲
		1.19(30.2)	.500(12.7)	.484(12.3)	.250(6.4)	P34	D1	U	M39012/21-0002	31-3376 *	2 ▲
Front Mount, Pressurized	Solder Cup	1.30(32.9)	.578(14.7)	.594(15.1)	.250(6.4)	P1	D9	P	UG-657A/U	31-239*	2 ▲
Front Mount, Pressurized	Solder Cup	1.30(32.9)	.578(14.7)	.594(15.1)	.250(6.4)	P1	D9	P	UG-657/U	31-102*	2 ▲
Fr. Mount, Gold Plated Contact	Spade	1.20(30.6)	.594(15.1)	.516(13.1)	.250(6.4)	P33	D1	U	M39012/24-0002	31-4238*	2 ▲
Hermetic External Tooth Lockwasher	Spade	1.20(30.6)	.594(15.1)	.516(13.1)	.250(6.4)	P1	D1/11	U	UG-912/U	31-238*	2 ▲
Front Mount	Solder Cup	1.06(27.0)	.500(12.7)	.472(12.0)	.156(4.0)	P1	D1	T	UG-625/U	5575*	2 ▲
Rear Mount, Hermetic	Spade	1.34(34.0)	.687(17.4)	.831(21.1)	.250(6.4)	P33	D1/11	Y	M39012/24-0001	31-4237*	3 ▲
Front Mount Isolated from Panel Metal Mounting Threads	Solder Cup	1.06(27.0)	.625(15.9)	.571(14.5)	.187(4.7)	P4	D1	Y	—	31-4890-1	4 ▲

* recognized under the component program of U.L., Inc. ▲ distributor stocked

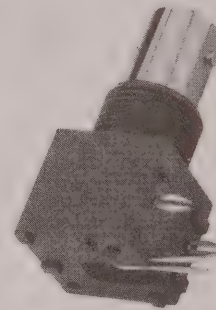
† includes grounding lug

Fig. 1

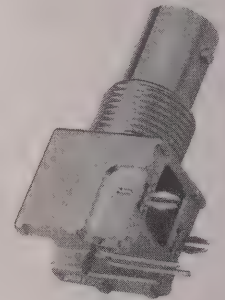
Standard Height 50 ohm BNC Printed Circuit Board Right Angle Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-5431▲ (Round Pins)
31-5431-1010 (Fork Pins)



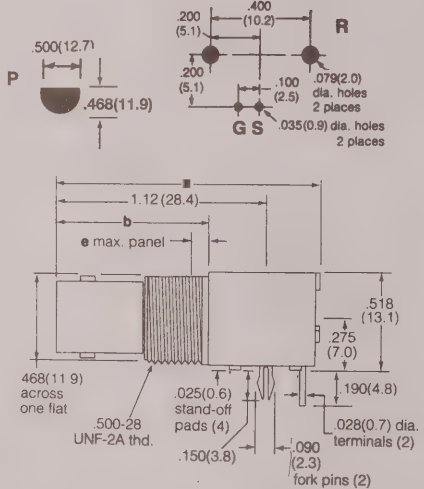
Isolated from Panel
Black Valox Housing
31-5538 (Round Pins)
31-5538-1010 (Fork Pins)



Metal Housing
31-5640▲ (Round Pins)
31-5640-1010 (Fork Pins)

Fig. 2

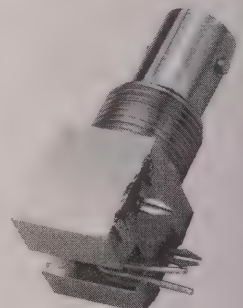
Low Profile 50 ohm BNC Printed Circuit Board Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-5486▲ (Round Pins)
31-5486-1010 (Fork Pins)



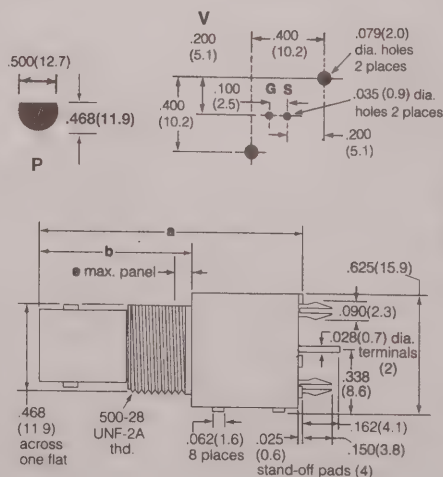
Isolated from Panel
Black Valox Housing
31-5540 (Round Pins)
31-5540-1010 (Fork Pins)



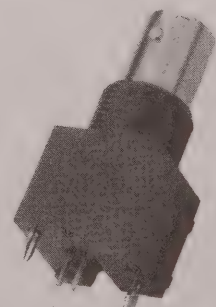
Metal Housing
31-5637 (Round Pins)

Fig. 3

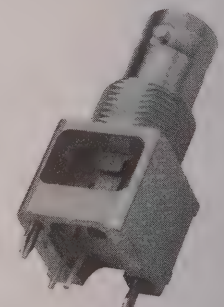
Vertical 50 ohm BNC Printed Circuit Board Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-5493▲ (Round Pins)
31-5493-1010 (Fork Pins)

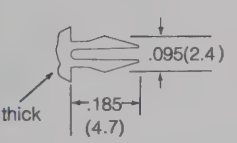



Isolated from Panel
Black Valox Housing
31-5539 (Round Pins)
31-5539-1010▲ (Fork Pins)

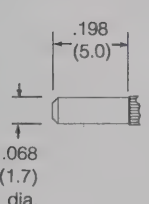


Metal Housing
31-5633 (Round Pins)
31-5633-1010 (Fork Pins)

▲ distributor stocked ☆ Jam nuts and lockwashers sold separately.

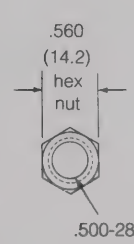


Fork Pin holds connectors rigidly to P.C. Board for high temperature and mass production assembly



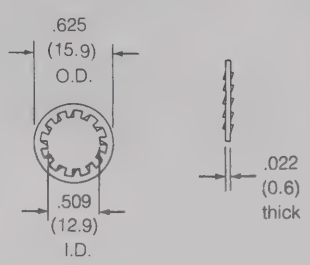
Round Pin (Standard)

Fig. 4



Pkg. of 100, Hex Nut for BNC Bulkhead PCB Receptacles
31-5652▲ Nickel Plated

Fig. 5



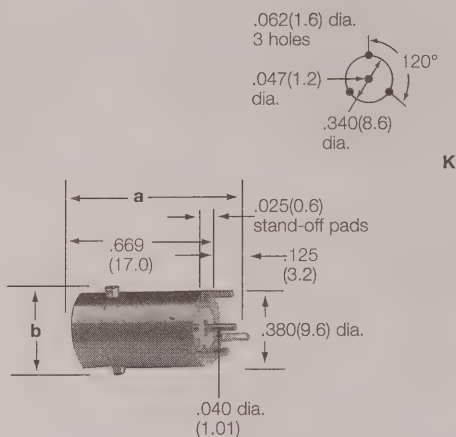
Pkg. of 100, Lockwasher for BNC PCB Bulkhead Receptacles
31-5653▲ Nickel Plated

BNC PRINTED CIRCUIT BOARD BULKHEAD RECEPTACLES AND ACCESSORIES

Description	Terminal Type	Dimensions, inches (millimeters)			Notes		Mtg. Hole	Notes	MTG. Pin Type	Imp	Amphenol Number	Fig.		
		a	b	e	Plt.	Ins.								
Standard Height Printed Circuit Angle Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	R/P	Iso. White Housing	Round	50Ω	31-5431	1		
					P26	D17			Fork	50Ω	31-5431-1010			
					P26	D20	R/P	Iso. Black Housing	Round	50Ω	31-5538			
					P26	D20			Fork	50Ω	31-5538-1010			
					P26	D22	R/P	Metal Housing	Round	50Ω	31-5640			
					P26	D22			Fork	50Ω	31-5640-1010			
Low Profile Printed Circuit Angle Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	R/P	Iso. White Housing	Round	50Ω	31-5486	2		
					P26	D17			Fork	50Ω	31-5486-1010			
					P26	D20	R/P	Iso. Black Housing	Round	50Ω	31-5540			
					P26	D20			Fork	50Ω	31-5540-1010			
					P26	D22	R/P	Metal Housing	Round	50Ω	31-5637			
					P26	D22			Fork	50Ω	31-5637-1010			
Vertical Printed Circuit Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	V/P	Iso. White Housing	Round	50Ω	31-5493	3		
					P26	D17			Fork	50Ω	31-5493-1010			
					P26	D20	V/P	Iso. Black Housing	Round	50Ω	31-5539			
					P26	D20			Fork	50Ω	31-5539-1010			
					P26	D22	V/P	Metal Housing	Round	50Ω	31-5633			
					P26	D22			Fork	50Ω	31-5633-1010			
Hex Nut for BNC Bulkhead PCB Receptacles, Package of 100 ea.					P3	—	—	Nickel Plated	—	—	31-5652	4		
Lockwasher for BNC Bulkhead PCB Receptacles, Package of 100 ea.					P3	—	—	Nickel Plated	—	—	31-5653	5		

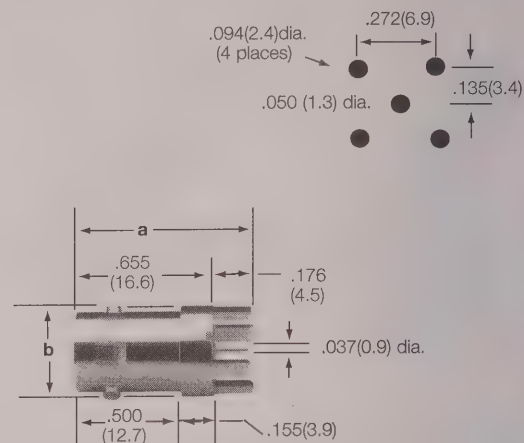
☆ Jam nuts and lockwashers sold separately. See Figs. 4 & 5 ▲ distributor stocked

Fig. 1



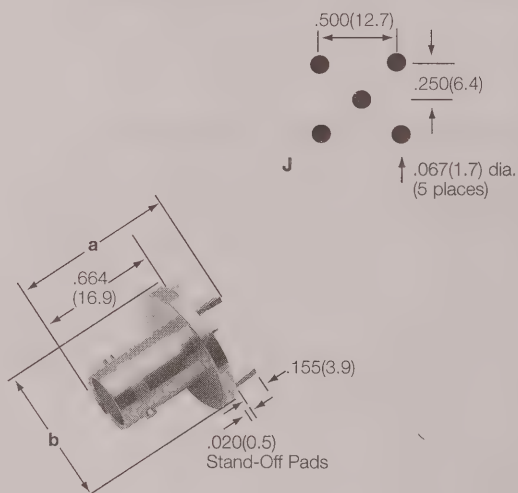
BNC PCB Receptacle (Jack)
Post Terminal, 3 Legs
.380" (9.6mm) Dia. Base
31-5329

Fig. 2



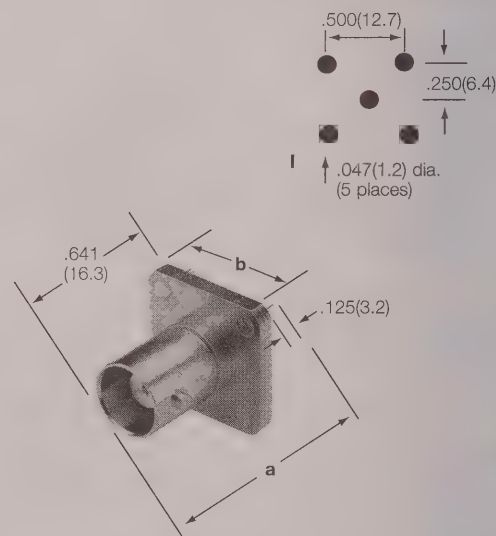
BNC PCB Receptacle (Jack)
Post Terminal, 4 Legs
.433" (11.0mm) Dia. Base
31-5329-51RFX
31-5329-52RFX

Fig. 3



BNC PCB Receptacle (Jack)
Post Terminal, 4 Legs
31-4758

Fig. 4



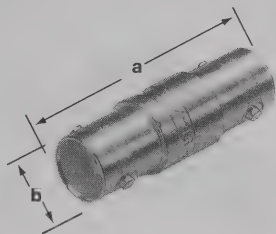
BNC PCB Receptacle (Jack)
Post Terminal, 4 Legs
18225

PRINTED CIRCUIT BOARD RECEPTACLES

Description	Terminal Type	Dimensions, inches (mm)		Notes			Mtg. Hole	Amphenol Number	Fig.
		a	b	Plt.	Ins.	Imp.			
PCB Receptacle, 3 Legs .125(3.2) Long/ Post Terminal .040(1.0) Dia. x .125(3.2) Long/ .025(0.6) Stand-off Pads	Blunt Post	.794(20.2)	.434(11.0)	P6	D1	50Ω	K	31-5329	1
PCB Receptacle, 4 Legs .176(4.5) Long/ Post terminal .037(0.9) Dia.	Blunt Post	.831(21.1)	.433(11.0) dia	P1	D25	50Ω	F	31-5329-51RFX	2
PCB Receptacle, 4 Legs .176(4.5) Long/ Post terminal .037(0.9) Dia.	Blunt Post	.831(21.1)	.433(11.0) dia	P17	D25	50Ω	F	31-5329-52RFX	2
PCB Receptacle, 4 Legs .155(3.9) Long/ .020(0.5) Stand-off Pads/Post terminal .040(1.0) Dia.	Blunt Post	.819(20.8)	.812(20.6) dia	P1	D1	50Ω	J	31-4758	3
PCB Receptacle, 4 Legs and Post Terminal .040(1.0) Dia. x .125(3.2) Long	Blunt Post	.766(19.4)	.688(17.5) dia	P1	D1	50Ω	I	18225	4

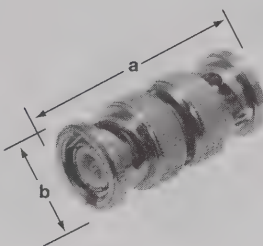
▲ distributor stocked

Fig. 1



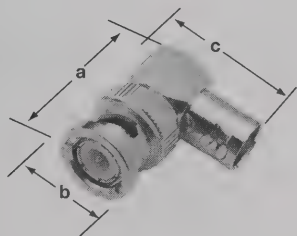
BNC Straight Adapters - Jack/Jack
31-219
31-219-RFX

Fig. 2



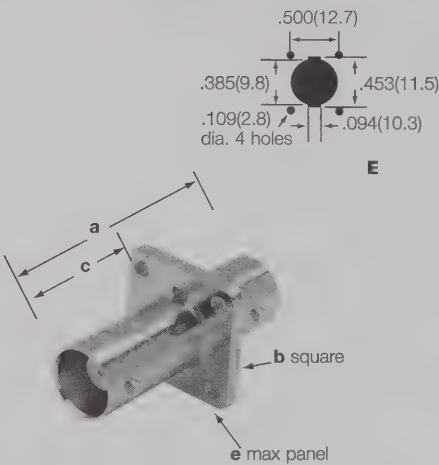
BNC Straight Adapters - Plug/Plug
31-218
31-218-RFX

Fig. 3



BNC Angle Adapters - Jack/Plug
31-9
31-9-RFX
31-4561

Fig. 4



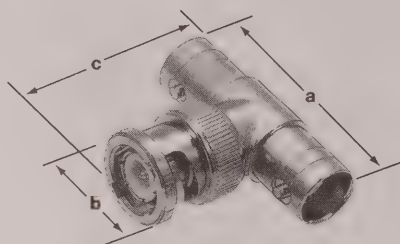
BNC Panel Adapter - Jack/Jack
47000

BNC ADAPTERS - STRAIGHT, ANGLE, PANEL MOUNT

Description		Dimensions, inches (millimeters)				Notes		Mtg. Hole	Military Number	Amphenol Number	Fig.
		a	b	c	e	Plt.	Ins.				
Straight	Jack-Jack	1.28(32.5)	.437(11.1)	—	—	P1	D1	—	UG-914/U	31-219*	1 ▲
						P7	D26	—	—	31-219-RFX	1 ▲
Straight	Plug-Plug	1.25(31.8)	.562(14.3)	—	—	P1	D1	—	UG-491A/U	31-218*	2 ▲
						P7	D1	—	—	31-218-RFX	2 ▲
Angle	Jack-Plug	1.06(27.0)	.562(14.3)	1.02(25.8)	—	P1	D1	—	UG-306/U	31-9*‡	3 ▲
		1.06(27.0)	.562(14.3)	1.02(25.8)	—	P1	D1	—	—	31-9-RFX	3 ▲
		1.09(27.6)	.594(15.1)	1.02(25.8)	—	P34	D1	—	M55339/14-00306	31-4561	3 ▲
Panel, 3-56 Tapped Flange Holes	Jack-Jack	1.28(32.5)	.688(17.5)	.691(17.6)	.250(6.4)	P1	D1	E	—	47000*	4

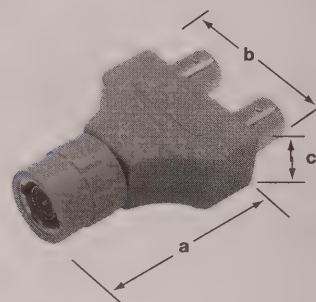
* recognized under the component program of U.L., Inc. ▲ distributor stocked ‡ IBM 6028521

Fig. 1



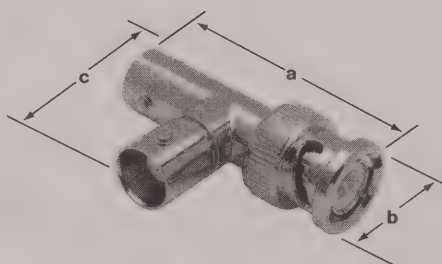
Tee Adapters - Jack-Plug-Jack
31-208
31-208-RFX
31-208-1051
31-2208

Fig. 2



BNC Overmolded Tee Adapter
Jack-Plug-Jack
31-5693

Fig. 3



BNC Tee Adapter
Plug-Jack-Jack
21900

BNC TEE ADAPTERS

Description		Dimensions, inches (millimeters)			Notes		Military Number	Amphenol Number	Fig.
		a	b	c	Plt.	Ins.			
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P1	D1	UG-274A/U	31-208*	1 ▲
Tee	Jack-Plug-Jack	1.30(33.0)	.571(14.5)	1.04(26.3)	P7	D23	—	31-208-RFX	1 ▲
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P15	D1	—	31-208-1051	1
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	P4	D1	UG-274B/U	31-2208*	1
Tee, Overmolded	Jack-Plug-Jack	1.72(43.6)	1.32(33.5)	.550(14.0)	P7	D14	—	31-5693	2 ▲
Tee	Plug-Jack-Jack	1.53(38.9)	.375(9.52)	1.00(25.4)	P1	D9	—	21900*	3

* recognized under the component program of U.L. Inc. ▲ distributor stocked

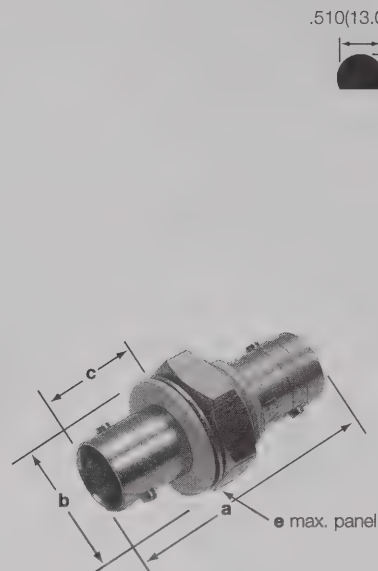
Fig. 1



BNC Bulkhead Adapters - Jack/Jack

4525
31-220G-RFX
31-220H
31-220N
31-220N-RFX
31-3220

Fig. 2



BNC Isolated Bulkhead Adapters

Jack-Jack
31-4803
31-4803-1101

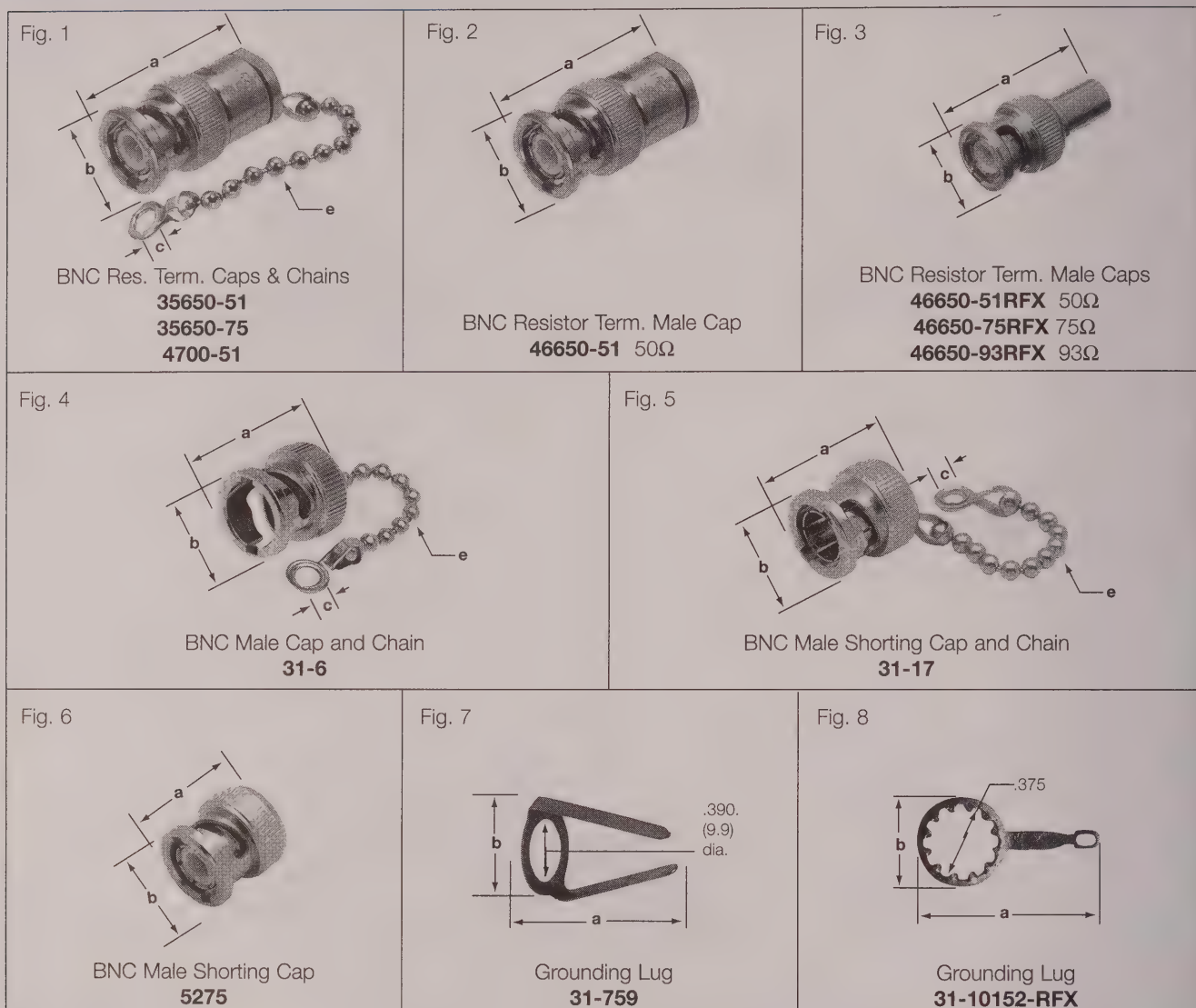
BNC BULKHEAD ADAPTERS

Description		Dimensions, inches (millimeters)				Notes		Mtg. Hole	Military Number	Amphenol Number	Fig.
		a	b	c	e	Plt.	Ins.				
Sealed, 50 PSI	Jack-Jack	1.40(35.6)	.625(15.9)	.683(17.3)	.187(4.8)	P1	D1	Y	UG-492A/U	31-220H *‡	1 ▲
	Jack-Jack	1.53(38.9)	.688(17.5)	.672(17.0)	.281(7.1)	P4	D1	Y	UG-492D/U	31-3220*	1 ▲
Gasketed	Jack-Jack	1.56(39.6)	.689(17.5)	.681(17.3)	.295(7.5)	P7	D23	Y	—	31-220G-RFX	1 ▲
	Jack-Jack	1.40(35.6)	.800(20.3)	.659(16.7)	.160(4.1)	P1	D1	Y	—	4525*	1 ▲
Non-sealed	Jack-Jack	1.40(35.6)	.800(20.3)	.664(16.9)	.187(4.8)	P1	D1	Y	—	31-220N	1 ▲
		1.28(32.5)	.610(15.5)	.492(12.5)	.216(5.5)	P7	D23	Y	—	31-220N-RFX	1 ▲
Isolated from Panel	Jack-Jack	1.28(32.5)	.625(15.9)	.460(11.7)	.187(4.8)	P1	D12	Y	—	31-4803	2 ▲
		1.28(32.5)	.625(15.9)	.460(11.7)	.187(4.8)	P15	D12	Y	—	31-4803-1101	2 ▲

* recognized under the component program of U.L. Inc. ▲ distributor stocked ‡ IBM 5252764

BNC 50 ohm Caps & Accessories

Amphenol®



BNC CAPS & ACCESSORIES

Description		Dimensions, inches (millimeters)				Notes		Military Number	Amphenol Number	Fig.
		a	b	c	e	Plt.	Ins.			
Male Cap & Chain Resistor Terminated, 5% 1/2watt	50Ω	1.19(30.2)	.562(14.3)	.144(3.7)	3.50(88.9)	P1	D1	—	35650-51*	1
	75Ω					P1	D1	—	35650-75*	1
	51Ω					P1	D6	MX-554	4700-51*	1
Male Cap, Resistor Terminated, 5% 1 watt	51Ω	1.12(28.6)	.562(14.3)	—	—	P1	D1	—	46650-51*	2
Male Cap, Resistor Terminated, 5% 1 watt	50Ω	1.11(28.1)	.571(14.5)	—	—	P1	D23	—	46650-51RFX	3
	75Ω								46650-75RFX	3
	93Ω								46650-93RFX	3
Male Cap & Chain		.688(17.5)	.563(14.3)	.130(3.3)	2.25(57.2)	P3	—	CW-123/U	31-6*	4
Male Shorting Cap & Chain		.688(17.5)	.563(14.3)	.144(3.7)	2.50(63.5)	P1	—	CW-159/U	31-17*	5
Male Shorting Cap		.594(15.1)	.563(14.3)	—	—	P1	—	—	5275*	6
Pkg. of 25 Lugs Used Inside Panel on Front Mount Bulkhead Receptacles to Ground Cable Shield*		.961(24.4)	.578(14.7)	—	—	P3	—	(IBM 2245373)	31-759*	7
Pkg. of 25 Lugs Used Inside Panel on Front Mount Bulkhead Receptacles for Ground Wire to Circuit		1.156(29.4)	.578(14.7)	—	—	P8	—	—	31-10152-RFX*	8

■ IBM 3110787 * recognized under the component program of U.L., Inc. ▲ distributor stocked

Description

To meet the need for higher performance, impedance matched cable interconnections, Amphenol offers a full line of 75 ohm BNC connectors. These connectors can be used in a variety of applications where true 75 ohm performance is needed to insure lower signal distortion.

Applications

- Broadcast
- Satellite Communications
- Telecommunications
- LAN
- Test and Measurement
- Instrumentation

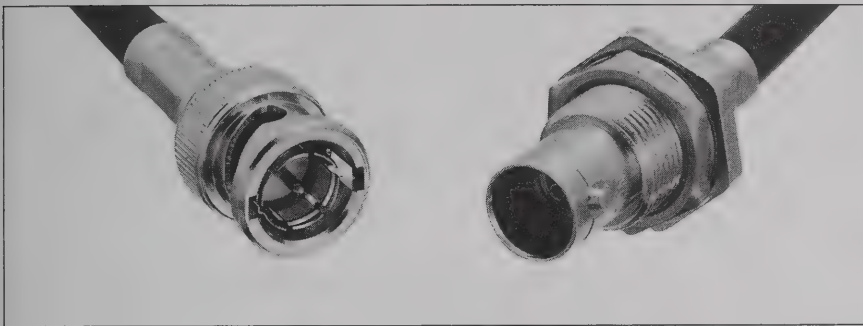
Features/Benefits

Requirements for this product frequently occur in the telecommunications market, with applications in satellite TV earth stations, television network broadcast equipment, computer networks and security transmission systems.

Designed for the most popular 75 ohm cables used in broadcast and CATV applications as well as for plenum cables and others — these connectors feature crimp-crimp cable affixment for quick and reliable installation.

Two distinct types of 75Ω BNCs are available. Both types mate with each other and with 50Ω BNCs.

- Type 1 is designated 75Ω BNC-T1 and provides constant 75Ω performance with low VSWR DC to 4 GHz.
- Type 2 is designated 75Ω BNC-T2 and is usable with low reflection DC to 1 GHz. For applications above 1 GHz, Type 1 is recommended.



SPECIFICATIONS*

ELECTRICAL

Impedance	75 ohms nominal
Frequency range	0-4 GHz
Voltage rating	500 volts rms
Dielectric withstanding voltage	1,500 volts rms.
Insulation resistance	5,000 megohms min.
VSWR	Type 1: 1.5 + 0.1 f(GHz) DC to 4 GHz Type 2: 1.00 + 0.25 f(GHz) DC to 1 GHz

* These characteristics are typical and may not apply to all connectors.

MATERIAL

Body, coupling sleeve, male contact	Brass
Female contact	Beryllium copper or phosphor bronze
Crimp ferrule	Copper alloy
Plating	Contacts: gold Other metal parts: Nickel

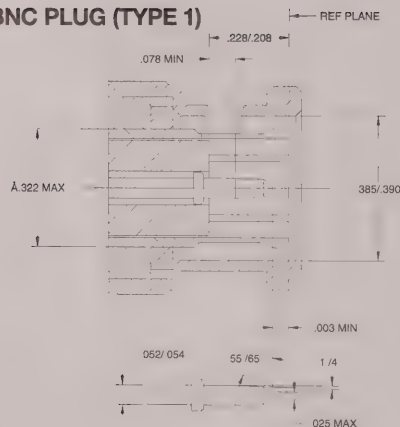
MECHANICAL

Mating	2-stud bayonet lock
Cable affixment	Crimp-Crimp

ENVIRONMENTAL

Temperature range	TFE insulators: - 65°C to + 165°C Copolymer of Styrene: - 55°C to + 85°C
Weatherproof	Clamps with clamp gaskets. Crimps with heat-shrink tubing.
Hermetic seals	Pass helium leak test of 2 X 10 ⁻⁸ cc/sec
Shock	MIL-Std. 202 method 202
Vibration	MIL-Std. 202 method 204 (test cond. D)
Moisture resistance	MIL-Std. 202 method 106
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature cycling	MIL-Std. 202 method 102 (test cond. D)
Altitude	MIL-Std. 202 method 105 (test cond. C)

75Ω BNC PLUG (TYPE 1)



75Ω BNC JACK

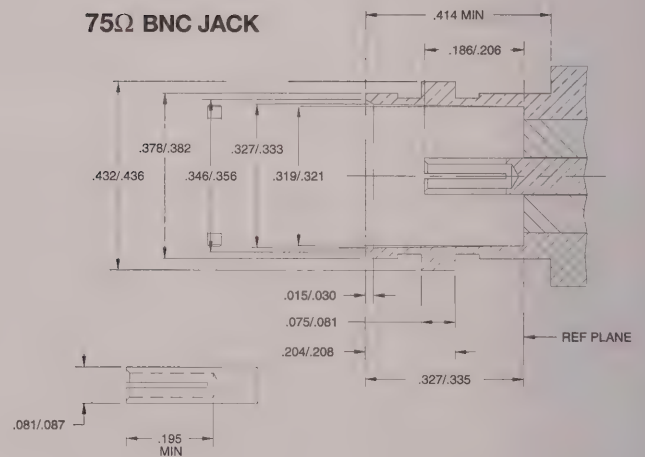
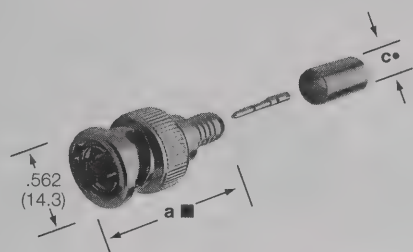


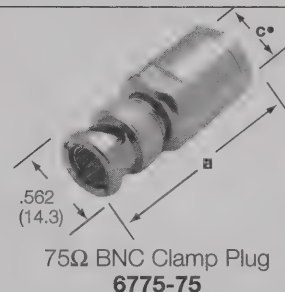
Fig. 1



75Ω BNC Crimp Plugs

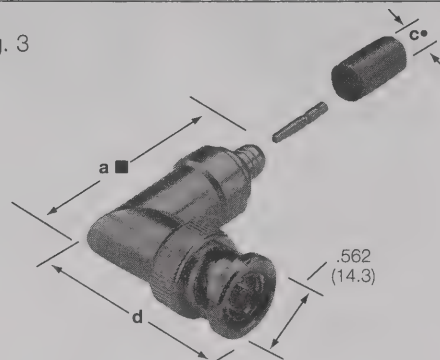
31-70000	31-70022	31-71008-RFX	31-71035
31-70000-1000	31-70222	31-71013	31-71064
31-70008	31-71000-RFX	31-71013-RFX	31-71065
31-70008-1000	31-71008	31-71013-1000	31-71066
31-70008-3000	31-71008-1000	31-71032	
31-70013	31-71008-2000	31-71033	
31-70013-1000	31-71008-1RFX	31-71034	

Fig. 2



75Ω BNC Clamp Plug
6775-75

Fig. 3



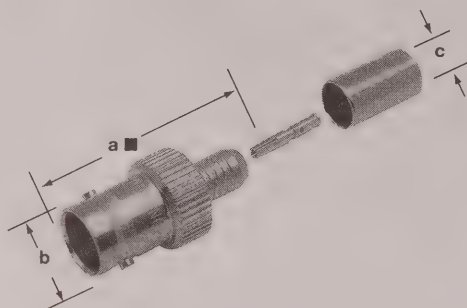
75Ω BNC Crimp Angle Plugs
31-70015-1000 31-71010
31-70082 31-71010-RFX

75Ω BNC PLUGS AND ANGLE PLUGS

Cable RG-/U	Connector Configuration	Cable Attachment		Dimensions, inches (millimeters)			Notes			75Ω Type	Amphenol Number	Fig.
		Outer	Inner	a ■	c •	d	CAI	Plt.	Ins.			
RG-6 Type .295" O.D. max. Belden 9248, 1694A (Single Shield)	Plug	Crimp	Crimp	1.35(34.3)	.300(7.6)	—	C31	P15	D1	T1	31-70000☆	1 ▲
	Plug	Crimp	Crimp	1.21(30.7)	.300(7.6)	—	C32	P7	D26	T2	31-71000-RFX☆	1 ▲
	Plug	Crimp	Crimp	1.25(31.8)	.300(7.6)	—	C31	P15	D1	T1	31-70000-1000	1 ▲
	Plug	Crimp	Crimp	1.21(30.7)	.300(7.6)	—	C32	P15	D1	T2	31-71064	1 ▲
11	Plug	Clamp	Solder	1.75(44.4)	.443(11.2)	—	C25	P1	D1	T2	6775-75	2 ▲
	Plug	Crimp	Crimp	1.25(31.7)	.261(6.6)	—	C31	P16	D1	T1	31-70008	1 ▲
	Plug	Crimp	Crimp	1.12(28.6)	.261(6.6)	—	C32	P15	D1	T2	31-71008	1 ▲
	Plug	Crimp	Crimp	1.17(29.8)	.260(6.6)	—	C32	P7	D26	T2	31-71008-RFX	1 ▲
59, 62 Belden 8241, 8263, 8279, 9209	Angle Plug	Crimp	Crimp	1.66(42.2)	.261(6.6)	1.24(31.5)	C32	P15	D1	T2	31-71010	3 ▲
	Angle Plug	Crimp	Crimp	1.66(42.2)	.260(6.6)	1.07(27.3)	C32	P7	D23	T2	31-71010-RFX	3 ▲
	Plug	Crimp	Crimp	1.25(31.8)	.261(6.6)	—	C31	P15	D1	T1	31-70008-3000	1 ▲
	Plug	Crimp	Crimp	1.12(28.5)	.261(6.6)	—	C32	P15	D1	T2	31-71008-1000	1 ▲
59 (20GA CC) Belden 1426A, 1505A 9100, 9278	Plug	Crimp	Crimp	1.17(29.8)	.261(6.6)	—	C32	P7	D26	T2	31-71008-1RFX	1 ▲
	Plug	Crimp	Crimp	1.11(28.2)	.220(5.6)	—	C32	P15	D1	T2	31-71008-2000	1 ▲
	Plug	Crimp	Crimp	1.11(28.2)	.220(5.6)	—	C32	P15	D1	T2	31-71035	1 ▲
Plenum 59, Belden 88241 82259, 89259	Plug	Crimp	Crimp	1.11(28.2)	.220(5.6)	—	C32	P15	D1	T2	31-71035	1 ▲
Plenum 59 (20GA CC) Belden 82108	Plug	Crimp	Crimp	1.11(28.2)	.220(5.6)	—	C32	P15	D1	T2	31-71035	1 ▲
Dbl Shield 59 (20GA CC) 179, 187	Plug	Crimp	Crimp	1.36(34.5)	.334(8.5)	—	C31	P15	D1	T1	31-70222	1 ▲
	Plug	Crimp	Crimp	1.33(33.5)	.120(3.0)	—	C31	P15	D1	T1	31-70013	1 ▲
	Plug	Crimp	Crimp	1.19(30.2)	.120(3.0)	—	C32	P15	D1	T2	31-71013	1 ▲
	Plug	Crimp	Crimp	1.19(30.2)	.106(2.7)	—	C32	P17	D23	T2	31-71013-RFX	1 ▲
Dbl. Br. 179	Plug	Crimp	Crimp	1.25(31.7)	.175(4.4)	—	C31	P15	D1	T1	31-70013-1000	1 ▲
	Plug	Crimp	Crimp	1.11(28.2)	.175(4.4)	—	C32	P15	D1	T2	31-71013-1000	1 ▲
ATT 728B, Belden 9231	Plug	Crimp	Crimp	1.36(34.5)	.342(8.7)	—	C31	P16	D1	T1	31-70022	1 ▲
ATT 734A	Plug	Crimp	Crimp	1.25(31.7)	.261(6.6)	—	C31	P15	D1	T1	31-70008-1000	1 ▲
ATT 735A	Angle Plug	Crimp	Solder	1.09(27.7)	.158(4.0)	.894(22.7)	C31	P15	D1	T1	31-70082	3 ▲
ATT 19224-L2	Angle Plug	Crimp	Crimp	1.63(41.4)	.175(4.4)	1.24(31.5)	C31	P16	D1	T1	31-70015-1000	3 ▲
Belden 8218	Plug	Crimp	Crimp	1.11(28.2)	.175(4.4)	—	C32	P15	D1	T2	31-71033	1 ▲
Belden 8281, 88281	Plug	Crimp	Crimp	1.21(30.7)	.342(8.7)	—	C32	P15	D1	T2	31-71032	1 ▲
Belden 89248, (Plenum)	Plug	Crimp	Crimp	1.35(34.3)	.250(6.4)	—	C31	P15	D1	T1	31-70000☆	1 ▲
Belden 9290, 1152A (Double Shield)	Plug	Crimp	Crimp	1.21(30.7)	.314(8.0)	—	C32	P7	D26	T2	31-71000-RFX☆	1 ▲
	Plug	Crimp	Crimp	1.21(30.7)	.314(8.0)	—	C32	P15	D1	T2	31-71065	1 ▲
Belden 89292	Plug	Crimp	Crimp	1.62(41.1)	.418(10.6)	*	C32	P15	D1	T2	31-71034	1 ▲
Quad 59 Headend Cable	Plug	Crimp	Crimp	1.12(28.6)	.287(7.3)	—	C32	P15	D1	T2	31-71066	1 ▲

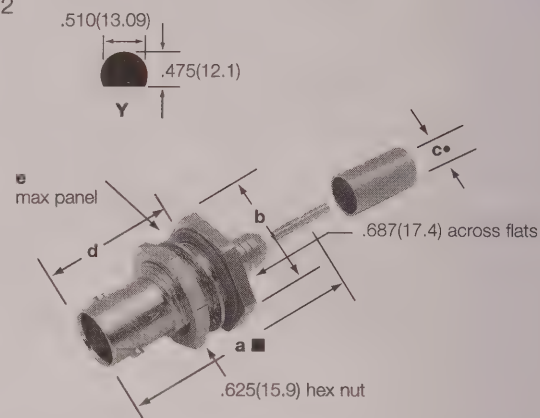
• accommodates cable diameter ■ includes outer ferrule ☆ supplied with two crimp ferrules ▲ Distributor Stocked * OD = .590(15.0)

Fig. 1



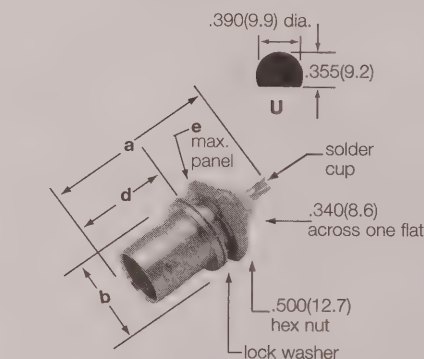
75Ω BNC Crimp Jacks
31-70009
31-71014-RFX

Fig. 2



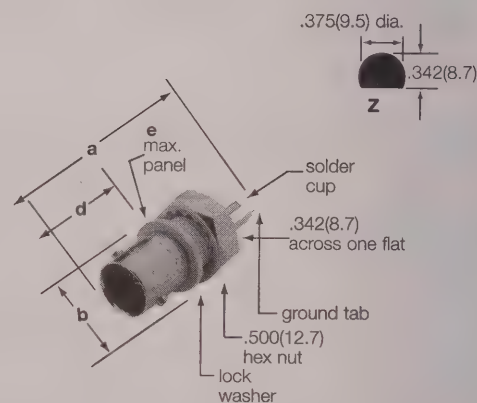
75Ω BNC Crimp Bulkhead Jacks
31-70016
31-70016-1000
31-71011
31-71011-RFX
31-71016
31-71016-RFX

Fig. 3



75Ω BNC Receptacles (J) Front Mount
31-221-75RFX
31-70018
31-71004

Fig. 4



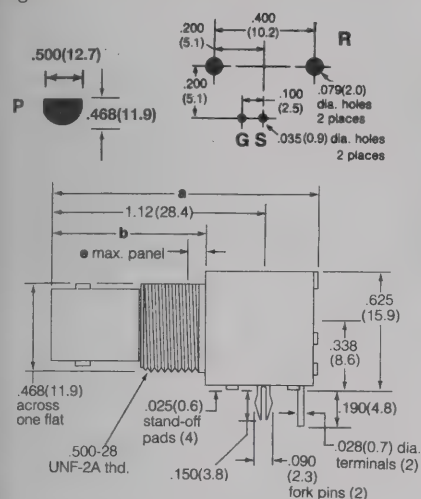
75Ω BNC Receptacle (J) Isolated from Panel
with Solder Cup & Ground Tab
31-10-75

75Ω BNC JACKS & RECEPTACLES

Cable RG/U	Connector Type	Dimensions, inches (millimeters)					Notes			Mtg. Hole	75Ω Type	Amphenol Number	Fig.
		a ■	b	c •	d	e	CAI	Plt.	Ins.				
59, Belden	Jack	1.18(30.0)	.510(12.9)	.261(6.6)	—	—	C31	P17	D1	—	T1	31-70009	1
8241, 8263	Bulkh. Jack	1.41(35.7)	.795(20.2)dia	.261(6.6)	.812(20.6)	.250(6.4)	C32	P15	D1	Y	T2	31-71011	2
59, 62, 140, 210	Bulkh. Jack	1.38(35.1)	.687(17.5)	.260(6.6)	.710(18.0)	.138(3.5)	C32	P7	D23	Y	T2	31-71011-RFX	1
179, 187	Jack	1.37(35.0)	.435(11.0)	.106(2.7)	—	—	C32	P7	D23	—	T2	31-71014-RFX	1
	Bulkh. Jack	1.48(37.7)	.687(17.4)hex	.120(3.0)	.812(20.6)	.250(6.4)	C31	P17	D1	Y	T1	31-70016	2
		1.41(35.7)	.795(20.2)dia	.120(3.0)	.812(20.6)	.250(6.4)	C32	P15	D1	Y	T2	31-71016	
		1.43(36.4)	.687(17.4)hex	.106(2.7)	.710(18.0)	.138(3.5)	C32	P7	D23	Y	T2	31-71016-RFX	
Dbl. Br. 179 ATT 19224-L2	Bulkh. Jack	1.48(37.7)	.687(17.4)hex	.175(4.4)	.812(20.6)	.250(6.4)	C31	P15	D1	Y	T1	31-70016-1000	2
Bulkhead Receptacle (J) Front Mount		1.06(27.0)	.490(12.4)	—	.472(12.0)	.125(3.2)	—	P15	D1	U	T2	31-71004	3
		1.06(27.0)	.490(12.4)	—	.472(12.0)	.250(6.4)	—	P15	D1	U	T1	31-70018	
		1.05(26.7)	.500(12.7)	—	.475(12.1)	.138(3.5)	—	P7	D23	U	T2	31-221-75RFX	
Bulkhead Receptacle (J) Frnt Mt, Iso. from Panel		1.19(30.2)	.490(12.4)	—	.472(12.0)	.187(4.7)	—	P15	D12	Z	T2	31-10-75	4

■ Includes outer ferrule • accommodates cable diameter ▲ Distributor Stocked

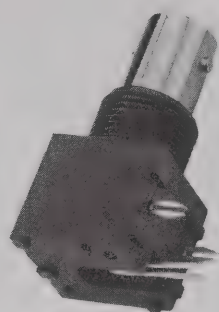
Fig. 1



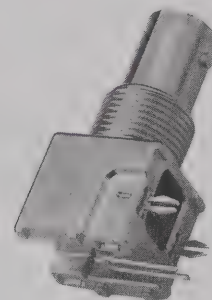
Standard Height BNC Printed Circuit Board Right Angle Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-71047 (Round Pins)
31-71047-1010 (Fork Pins)

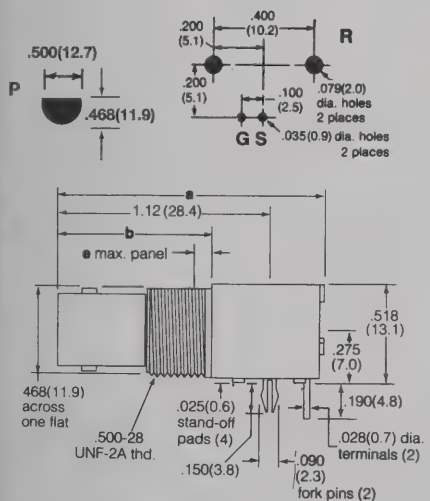


Isolated from Panel
Black Valox Housing
31-71046 (Round Pins)
31-71046-1010 (Fork Pins)



Metal Housing
31-71043 (Round Pins)
31-71043-1010▲ (Fork Pins)

Fig. 2



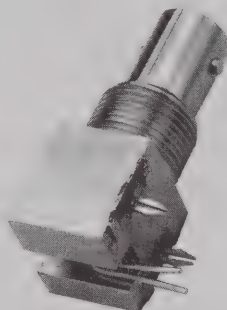
Low Profile BNC Printed Circuit Board Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-71052 (Round Pins)
31-71052-1010 (Fork Pins)

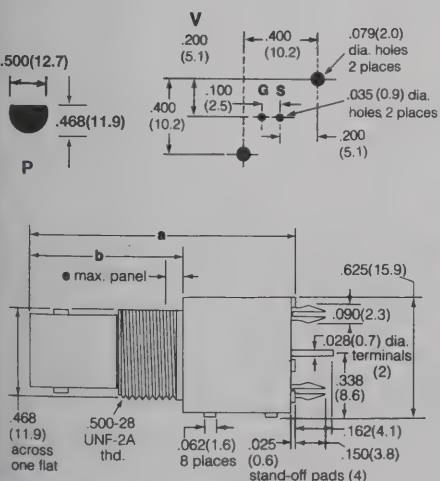


Isolated from Panel
Black Valox Housing
31-71053 (Round Pins)
31-71053-1010 (Fork Pins)



Metal Housing
31-71042 (Round Pins)

Fig. 3



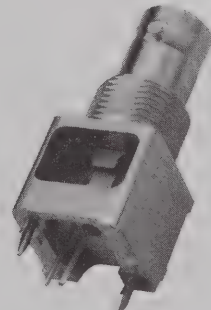
Vertical BNC Printed Circuit Board Bulkhead Receptacles ☆



Isolated from Panel
White Valox Housing
31-71058 (Round Pins)
31-71058-1010 (Fork Pins)



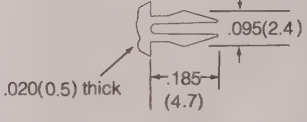
Isolated from Panel
Black Valox Housing
31-71059 (Round Pins)
31-71059-1010 (Fork Pins)



Metal Housing
31-71045 (Round Pins)
31-71045-1010 (Fork Pins)

BNC 75 ohm PCB Receptacles and Accessories

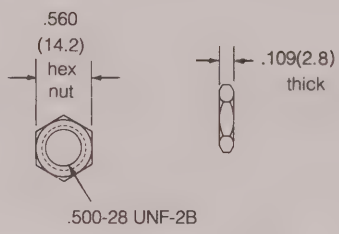
Amphenol®



NEW

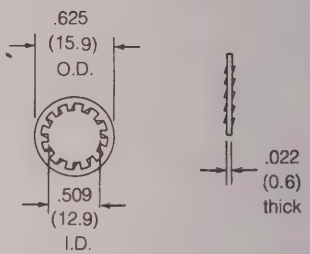
Fork Pin holds connectors rigidly to P.C. Board for high temperature and mass production assembly

Fig. 4

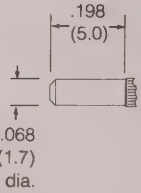


Pkg. of 100, Hex Nut for BNC Bulkhead PCB Receptacles
31-5652▲ Nickel Plated

Fig. 5



Pkg. of 100, Lockwasher for BNC PCB Bulkhead Receptacles
31-5653▲ Nickel Plated



NEW

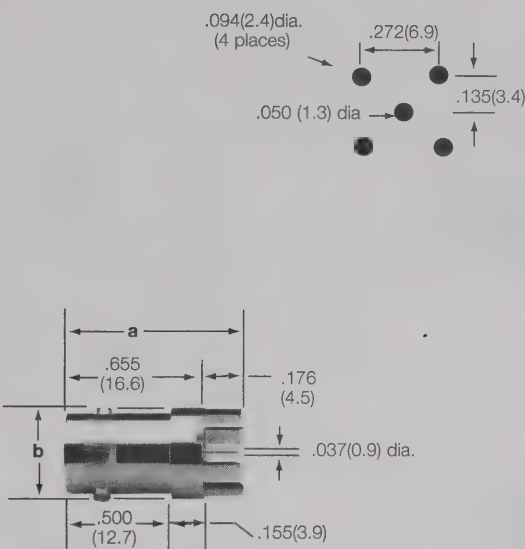
Round Pin (Standard)

BNC PRINTED CIRCUIT BOARD BULKHEAD RECEPTACLES

Description	Terminal Type	Dimensions, inches (millimeters)			Notes		Mtg. Hole	Notes	Mtg. Pin Type	Imp	Amphenol Number	Fig.
		a	b	e	Plt.	Ins.						
Standard Height Printed Circuit Angle Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	R/P	Iso. White Housing	Round	75Ω	31-71047	1
					P26	D17			Fork	75Ω	31-71047-1010	
					P26	D20	R/P	Iso. Black Housing	Round	75Ω	31-71046	
					P26	D20			Fork	75Ω	31-71046-1010	
					P26	D22	R/P	Metal Housing	Round	75Ω	31-71043	
					P26	D22			Fork	75Ω	31-71043-1010	
Low Profile Printed Circuit Angle Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	R/P	Iso. White Housing	Round	75Ω	31-71052	2
					P26	D17			Fork	75Ω	31-71052-1010	
					P26	D20	R/P	Iso. Black Housing	Round	75Ω	31-71053	
					P26	D20			Fork	75Ω	31-71053-1010	
					P26	D22	R/P	Metal Housing	Round	75Ω	31-71042	
					P26	D22			Fork	75Ω	31-71042-1010	
Vertical Printed Circuit Bulkhead Receptacle (J)☆	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P26	D17	V/P	Iso. White Housing	Round	75Ω	31-71058	3
					P26	D17			Fork	75Ω	31-71058-1010	
					P26	D20	V/P	Iso. Black Housing	Round	75Ω	31-71059	
					P26	D20			Fork	75Ω	31-71059-1010	
					P26	D22	V/P	Metal Housing	Round	75Ω	31-71045	
					P26	D22			Fork	75Ω	31-71045-1010	
Hex Nut for BNC Bulkhead PCB Receptacles, Package of 100 ea.					P3	—	—	Nickel Plated	—	—	31-5652	4
Lockwasher for BNC Bulkhead PCB Receptacles, Package of 100 ea.					P3	—	—	Nickel Plated	—	—	31-5653	5

☆ Jam nuts and lockwashers sold separately. See Figs. 4 & 5 ▲ distributor stocked

Fig. 1



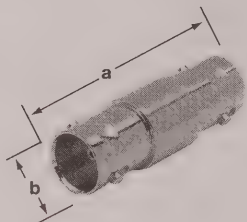
BNC PCB Receptacle (Jack)
Post Terminal, 4 Legs
.433" (11.0mm) Dia. Base
31-5329-72RFX

PRINTED CIRCUIT BOARD RECEPTACLE

Description	Terminal Type	Dimensions, inches (mm)		Notes		Mtg. Hole	Amphenol Number	Fig.
		a	b	Plt.	Ins.			
PCB Receptacle, Vertical, 4 Legs .176(4.5) Long/ Post terminal .037(0.9)" Dia.	Blunt Post	.831(21.1)	.433(11.0) dia	P17	D25	F	31-5329-72RFX	1 ▲

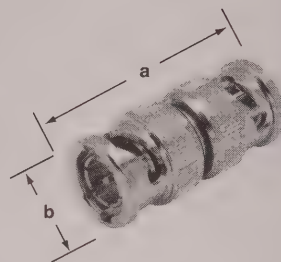
▲ distributor stocked

Fig. 1



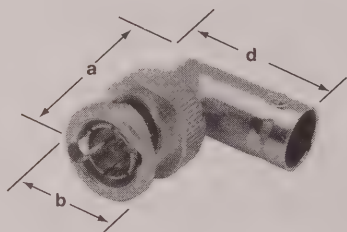
75Ω BNC Adapter (J/J)
31-219-75
31-70019

Fig. 2



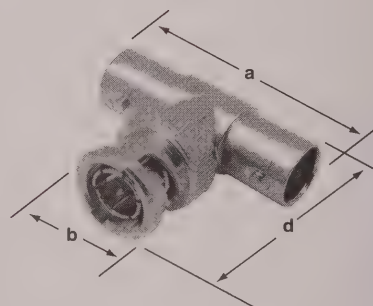
75Ω BNC Adapter (P/P)
31-218-75RFX

Fig.3



75Ω BNC Adapter (P/J)
31-9-75

Fig. 4



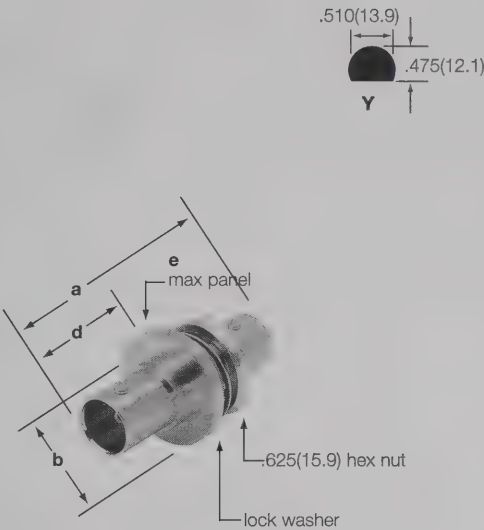
75Ω BNC Tee Adapter (J/P/J)
31-70036

75Ω BNC ADAPTERS

Description		Dimensions, inches (millimeters)			Notes		Mtg. Hole	UG No.	75Ω Type	Amphenol Number	Fig.
		a	b	d	Plt.	Ins.					
Straight	Jack-Jack	1.28(32.5)	.434(11.0)	—	P15	D1	—	—	T2	31-219-75	1
Straight	Jack-Jack	1.40(35.6)	.434(11.0)	—	P17	D1	—	—	T1	31-70019	1
Straight	Plug-Plug	1.33(33.7)	.571(14.5)	—	P15	D1	—	—	T2	31-218-75RFX	2
Angle	Jack-Plug	1.02(25.9)	.562(14.3)	.405(10.3)	P15	D9	—	—	T2	31-9-75	3
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.04(26.3)	P15	D1	—	—	T1	31-70036	4

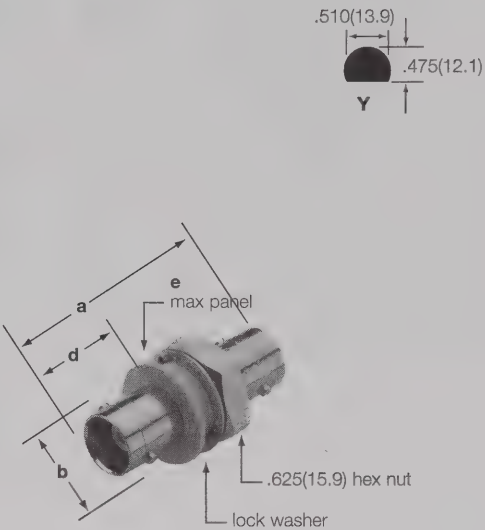
▲ distributor stocked

Fig. 1



75Ω BNC Bulkhead Adapters (J/J)
31-220N-75
31-220N-75RFX
31-70020

Fig. 2



75Ω BNC Bulkhead Adapter (J/J)
Isolated from Panel
31-4803-75

75Ω BNC BULKHEAD ADAPTERS

Description		Dimensions, inches (millimeters)				Notes		Mtg. Hole	UG No.	75Ω Type	Amphenol Number	Fig.
		a	b	d	e	Plt.	Ins.					
Gasketed	Jack-Jack	1.40(35.6)	.750(19.0)	.666(16.9)	.172(4.4)	P15	D1	Y	—	T1	31-70020	1
Not Gasketed	Jack-Jack	1.28(32.5)	.750(19.0)	.492(12.5)	.216(5.5)	P7	D23	Y	—	T2	31-220N-75RFX	1 ▲
Not Gasketed	Jack-Jack	1.40(35.6)	.800(20.3)	.664(16.8)	.181(4.6)	P17	D1	Y	—	T2	31-220N-75	1
Isolated	Jack-Jack	1.28(32.5)	.625(15.9)	.460(11.7)	.190(4.8)	P17	D12	Y	—	T2	31-4803-75	2 ▲

▲ distributor stocked

BNC Series 456

Filtered PCB Receptacles

Amphenol®

Description

Amphenol® BNC 456 Series filtered connectors provide capacitive decoupling between the connector body and mounting panel. This helps manufacturers meet the requirements of FCC Docket 20780, Part 15, Subpart J, which restricts EMI emissions. EMI on the coaxial shield is shunted to the chassis ground, while the DC and power supply frequencies are unaffected. This reduces ground loop problems and provides a mechanism to harmlessly dissipate ESD into the chassis.

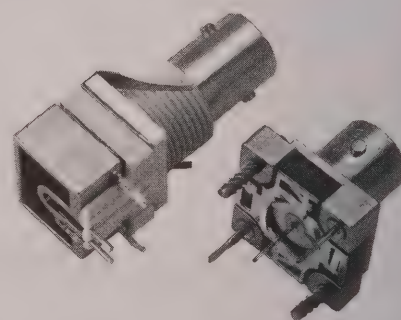
Applications

- Computer Networks
- Datacom Equipment

Features/Benefits

- Eliminates ground loops and reduces noise on coaxial interconnections
- Capacitively coupled RF connectors are fully intermateable and interchangeable with standard connectors

456 Series Filter Performance				
BNC PCB Receptacles		Bulk Right Angle Mount	Vertical Mount	
Part Number		456-117	456-107A	456-107ANF
Insertion Loss (dB) Capacitively Decoupled (per MIL-STD-220 at 25° C and no load)	1MHz	4	4	—
	5MHz	16	16	—
	10MHz	18	18	—
	30MHz	25	25	—
	50MHz	25	38	—
	100MHz	25	38	—
1000MHz		28	38	—
Capacitance (pF) ±		10,000 ± 20%	10,000 ± 20%	—
Number of Capacitors		2	4	—
Working Voltage (VDC)		200	200	200
Dielectric Withstanding Voltage (VDC)		1000	600	1000
Impedance (ohms)		50 (nom)	75 (nom)	75 (nom)

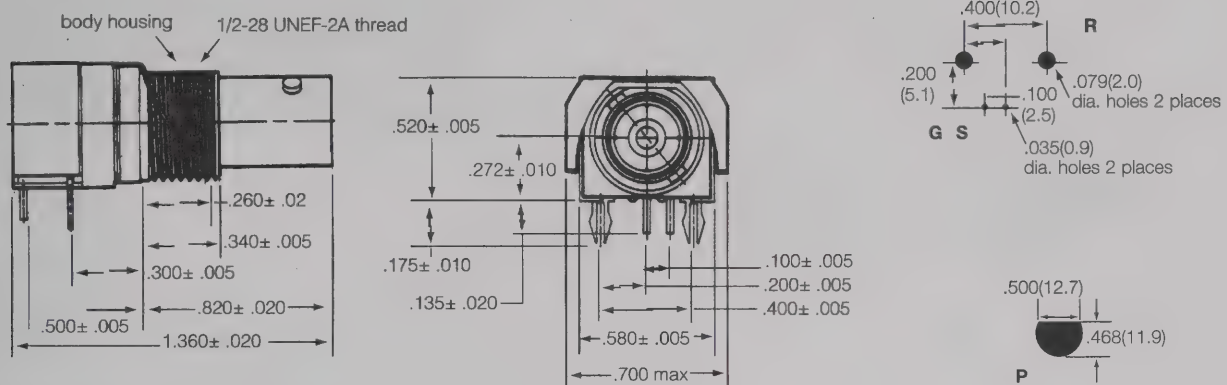


BNC Series 456 Filtered PCB Receptacles

Amphenol®

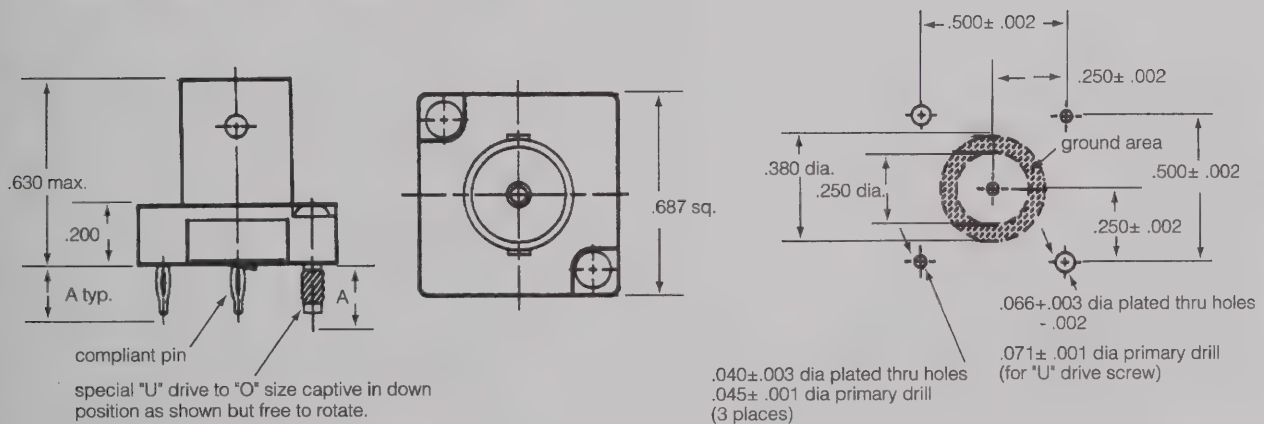
BNC

Fig. 1 BNC Isolated Right Angle PCB Bulkhead Receptacle with Boardlock Pins
456-117 50Ω Filtered



Note: Boardlock Pins are electrically connected to the body.

Fig. 2 BNC Vertical PCB Receptacle with Compliant Pin Terminals
456-107A 75Ω Filtered
456-107ANF 75Ω Not Filtered



Notes

Description

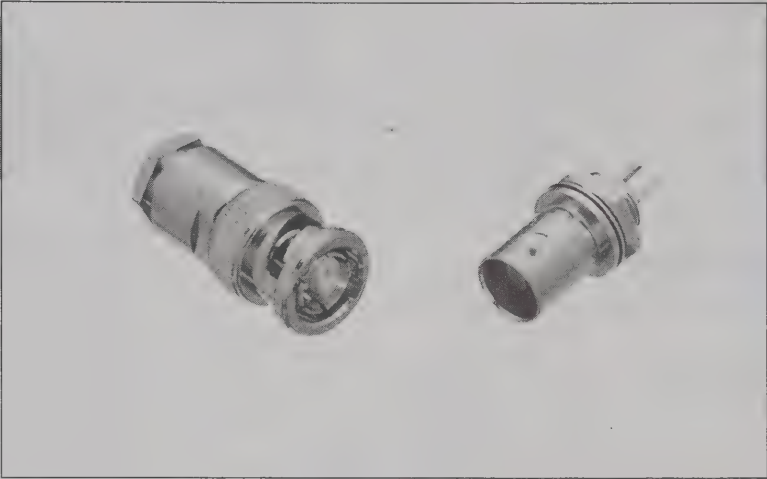
Amphenol twinaxial connectors are used with 78 and 95 ohm twin conductor cables. Due to the improved shielding characteristic (>30dB), these connectors are used in balanced low level and high sensitivity circuits.

Application

- Computer/Networks
- Process Equipment

Features/Benefits

Twin-BNC – This miniature style of connectors has a polarized contact design (one female, one male in each connector) and a two stud bayonet coupling mechanism, operating in the 0-100 MHz range. The bayonet coupling provides a quick disconnect for mating and unmating. With the size of a standard BNC connector, these connectors are ideal for terminating miniature cables and for use where space is limited.



Twin-BNC

Specifications	98
Connectors	99

SPECIFICATIONS*

ELECTRICAL

Impedance	Used with 78 ohm and 95 ohm twin conductor cables.
Frequency range	Contact polarization: 0-100 MHz.
Voltage rating	Contact polarization: 100 volts peak.

ENVIRONMENTAL

Temperature range	TFE: - 65°C to + 165°C Noryl: - 45°C to + 121°C
Weatherproof	All Twin-BNC connectors are weatherproof when mated

MILITARY SPECIFICATIONS

Amphenol twinaxial connectors, polarized contact construction, meet applicable sections of MIL-C-3655.

MECHANICAL

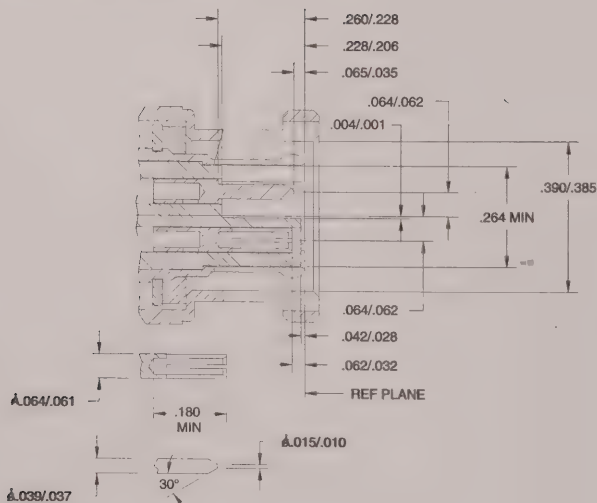
Mating	Contact polarization, 2 stud bayonet
Cable affixment	Braid clamp, "V" groove gasket and clamp nut mechanism.

MATERIAL

Contacts	Male: brass Female: beryllium copper. Silver plated.
Other metal parts	Brass: nickel finish
Insulators	TFE or Noryl as listed.
Clamp gaskets	Silicone rubber or synthetic rubber

* These characteristics are typical and may not apply to all connectors.

TWIN BNC PLUG



TWIN BNC JACK

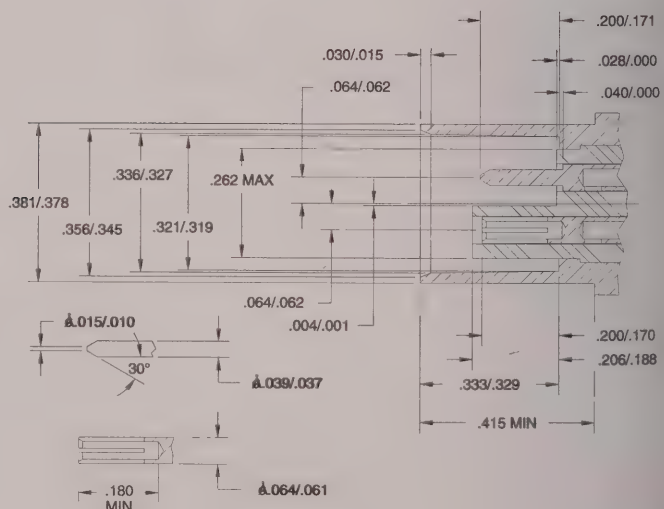
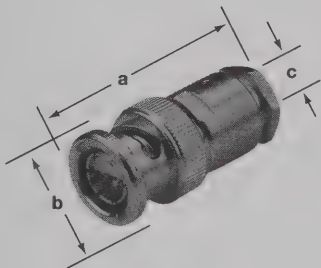
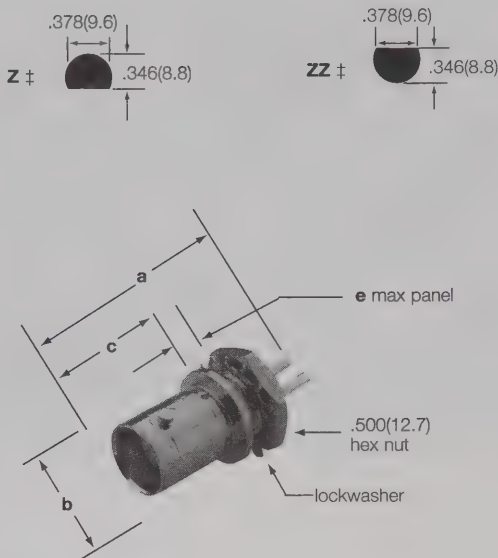


Fig. 1



Twin-BNC Clamp Plugs
31-224
31-2226

Fig. 2



Twin-BNC Bulkhead Receptacles
(Jack)
31-223
31-2225

Twin-BNC PLUGS & RECEPTACLES

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes			Mtg. Hole	Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c	e	CAI	Plt.	Ins.				
108A	Plug	Clamp	Solder	1.16(29.4)	.563(14.3)	.255(6.5)•	—	C33	P1	D19	—	—	31-224	1
										D1	—	—	31-2226	
Bulkhead Receptacle (Jack) Front Mount				1.03(26.2)	.500(12.7)	.531(13.5)	.106(2.7)	—	P1	D19	Z†	—	31-223	2
										D1	ZZ†	—	31-2225	

‡ NOTE: Use mounting hole as shown to assure proper orientation of solder cups. • accommodates cable diameter ▲ distributor stocked

Notes

Description

Amphenol 7/16 connectors are designed for use in high power communication systems. These connectors perform exceptionally well in multichannel cellular systems where power levels approximate 100 watts per channel.

Long popular in Europe, the 7/16 interface has gained acceptance in the U.S. for its ability to operate at elevated power levels in single and multichannel systems.

Applications

- Base Stations
- Antennas
- Broadcast Communication Systems
- Jumper Cables

Features/Benefits

- Low IMD and low VSWR for improved system performance
- Self flaring for ease of installation
- Waterproof per IEC169, IP68
- Limited internal junctions reduce sources of IMD
- Silver plated contacts and silver or white bronze plated bodies deliver high conductivity and corrosion resistance



Corrugated Cable

Specifications	102
Connectors	103-104

Semi-Rigid & RG Coax Cable

Specifications	105
Connectors	106-107

Receptacles

Receptacles	108
-------------	-----

Adapters

Adapters	108
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SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Return loss, dB (Frequency GHz) 3 ft Assembly	30 (0.045 - 1.0) 28 (1.000 - 2.0) 21 (2.0 - 3.0)
RF operating voltage max, VRMS	813
Peak power, max, kW	13.2
Average power, max, kW	3.0
Dielectric withstanding voltage	2,300
Shielding effectiveness	125 dB min.
Insertion loss max, dB	0.05 √ (Freq., GHz)
Insulation resistance:	5000 megohms min.
Operating Frequency	5.20 GHz, max.
3rd Order IM product Typical, dBm (dBc)	-125 (-168) (Two +43 dBm carriers IM product @ 910 MHz)

ENVIRONMENTAL

Temperature range	-40°C to + 150°C
Storage Temp. Range	-70°C to + 100°C
Thermal Shock Test	Pass (IEC 68, part 2-14, test N/A)
Immersion Test	Pass (IEC 529, IP 68)
Corrosion Test	Pass (IEC 68, part 2-1, test Ka)
Vibration Test	Pass (IEC 68, part 2-6)
Mechanical Shock Test	Pass (IEC 68, part 2-27)

MECHANICAL

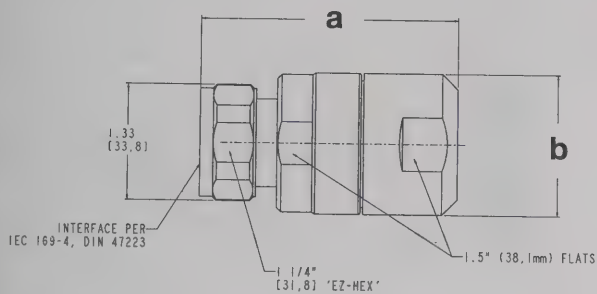
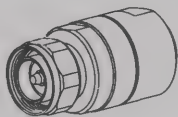
Inner Attachment Method	Captivated
Outer Attachment Method	Compression
Connector Durability Test	Pass (DIN 47275 part 2/10.82, sec. 2.10, 500 cycles)
Assembly Torque Body to Clamp nut) lb-ft (N-m)	Positive stop 18/22 (25/30)
Coupling Torque lb-ft (N-m)	15/20 (20/28)
Coupling Nut retention force	100 (445) lbs. (N)

MATERIAL

Body & outer contacts	Brass, ASTM B16 (QQ-B-626) Silver plate QQ-S-365 Type III, Grade A
Inner Contacts	Beryllium Copper ASTM-B196 Silver plate QQ-S-365
Insulator	PTFE resin, ASTM D1457
Gasket	Silicone rubber, ZZ-R- 765
Other metal parts	Brass, ASTM B16 (QQ-B-626) Silver plate QQ-S-365 Type III, Grade A
Protective coating on silver plate	Clear Chromate

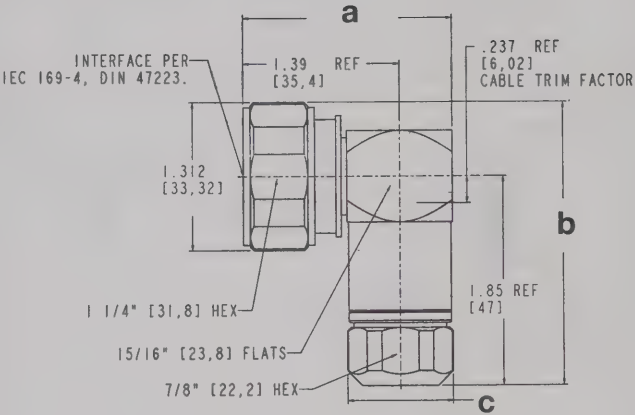
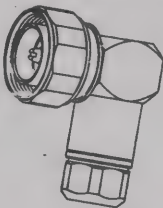
* These characteristics are typical and may not apply to all connectors.

Fig. 1



7/16 Male Interface
Straight, Silver Plated
A5PDM

Fig. 2



7/16 Male Interface
Right Angle, Silver Plated
S4PDR

7/16 MALE INTERFACE — STRAIGHT

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
3/8" Helical	Solderless	2.20	.875	n/a	Silver	Silver	S2PDM
1/2" Helical	Solderless	2.21	.950	n/a	Silver	Silver	S4PDM
1/2" Annular	Solderless	2.62	1.025	n/a	Silver	Silver	A4PDM
7/8" Annular	Solderless	2.95	1.62	n/a	Silver	Silver	A5PDM
1 5/8" Annular	Solderless	4.56	2.36	n/a	Silver	Silver	A7PDM

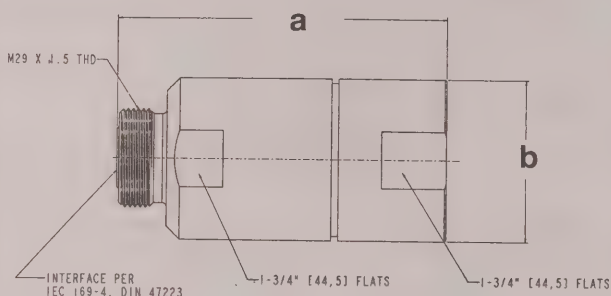
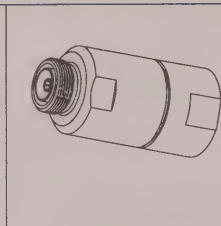
7/16 MALE INTERFACE — RIGHT ANGLE

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
3/8" Helical	Solderless	1.81	2.51	.875	Silver	Silver	S2PDR
1/2" Helical	Solderless	1.86	2.51	.935	Silver	Silver	S4PDR
1/2" Annular	Solderless	1.93	2.76	1.000	Silver	Silver	A4PDR

7/16 Jacks Corrugated Cable Connectors

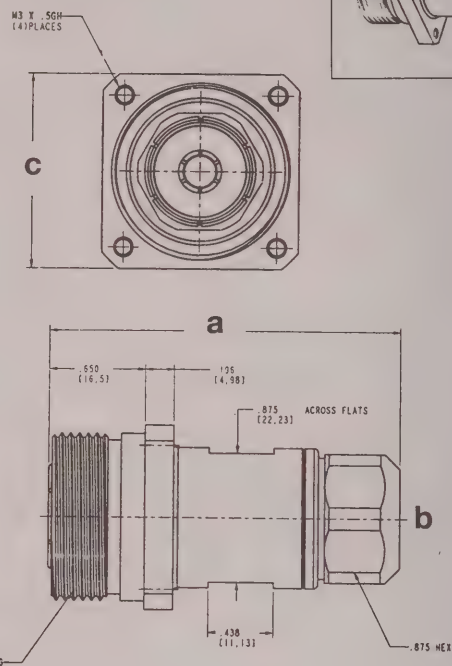
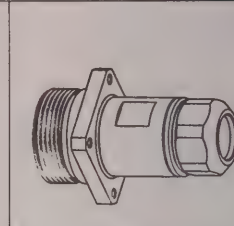
Amphenol®

Fig. 1



7/16 Female Interface
Straight
A6PDF Silver Plated

Fig. 2



7/16 Female Panel Mount
Silver Plated
S4PDF-PM-SO

7/16 FEMALE INTERFACE — STRAIGHT

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
1/2" Helical	Solderless	2.38	.950	n/a	Silver	Silver	S4PDF
1/2" Annular	Solderless	2.62	1.03	n/a	Silver	Silver	A4PDF
7/8" Annular	Solderless	2.64	1.62	n/a	Silver	Silver	A5PDF
1 1/4" Annular	Solderless	3.81	1.87	n/a	Silver	Silver	A6PDF
1 1/4" Annular	Solderless	3.81	1.87	n/a	Silver	Silver	A6PDF-H
1 5/8" Annular	Solderless	4.26	2.36	n/a	Silver	Silver	A7PDF

7/16 FEMALE INTERFACE — PANEL MOUNT

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
3/8" Helical	Solderless	2.37	.875	1.250	Silver	Silver	S2PDF-PM
1/2" Helical	Solderless	2.378	.950	1.250	Silver	Silver	S4PDF-PM
1/2" Helical	Solderless	2.378	.950	1.250	Silver	Silver	S4PDF-PM-SO

7/16

Semi-Rigid and RG Coax Cable

Amphenol®

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	7.0 GHz max.
Voltage rating	2.7 Kv RMS
Dielectric . withstanding voltage	4 Kv RMS
VSWR	1.3 max. 0-7.0 GHz
Insulation resistance:	5,000 megohms min.

ENVIRONMENTAL

Temperature range	-40°C to + 150°C
Thermal shock	Pass IEC 68, Part 2-14, Test Na
Corrosion	Pass IEC 68, Part 2-1, Test Ka
Vibration	Pass IEC 68, Part 2-6

MECHANICAL

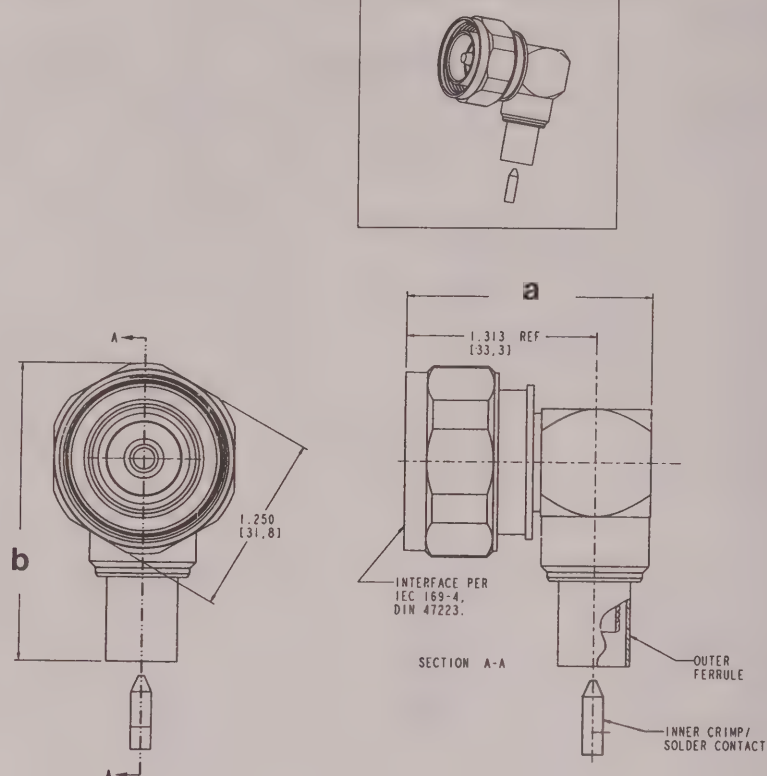
Mating	M29x1.5 Threaded Coupling
Captivated contact	All configurations except uncaptivated

MATERIAL

Body & Outer Contact	Brass, Silver plated
Female contacts	Phosphor bronze, Silver plated
Other metal parts	Brass, Silver or Optalloy plated
Insulators	TFE
Weatherproof gaskets	Silicone rubber

* These characteristics are typical and may not apply to all connectors.

Fig. 1



716-3

7/16 RIGHT ANGLE PLUG

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
RG393	Crimp	1.688	2.074	n/a	W Bronze	Silver	716-3

7/16 Plug Semi-Rigid and RG Coax Cables

Amphenol®

Fig. 1

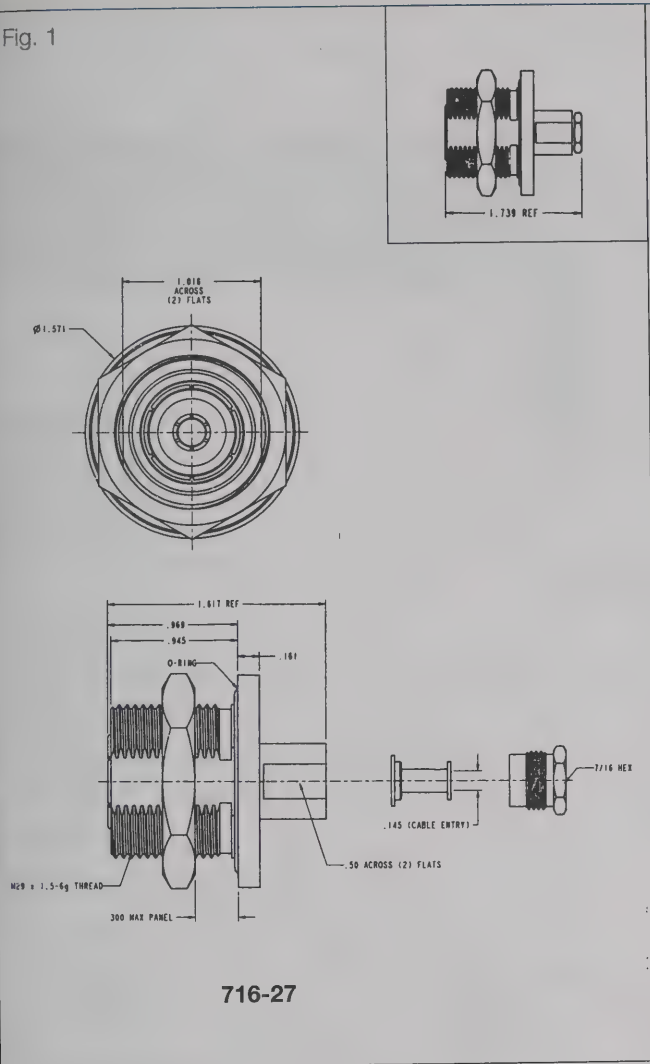
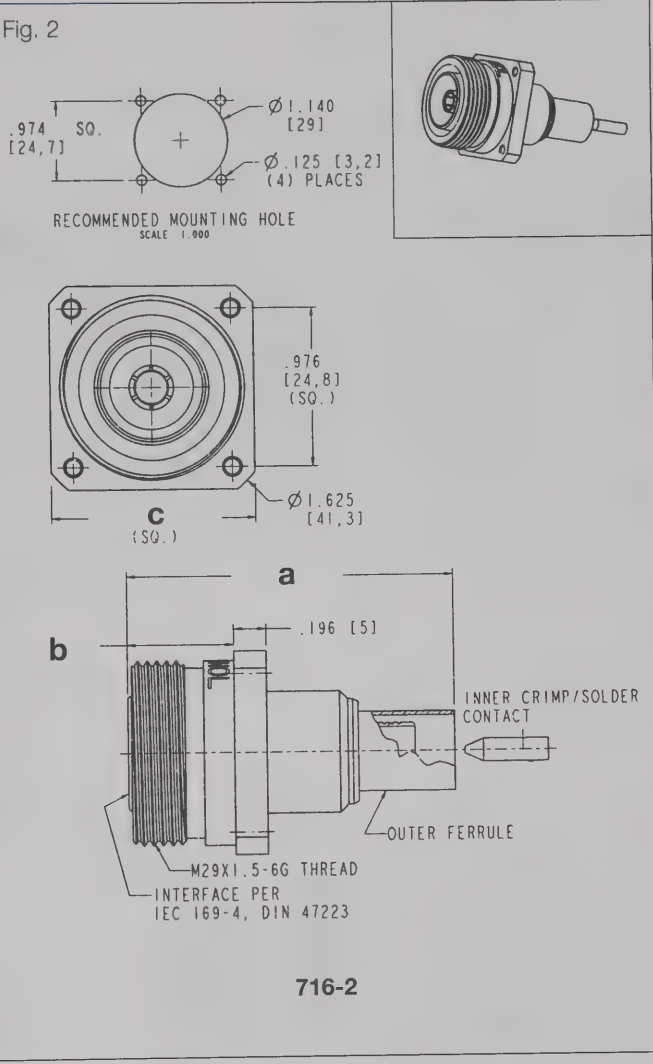


Fig. 2



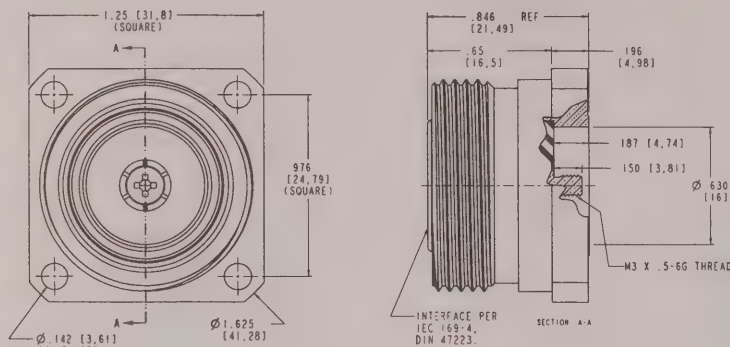
7/16 BULKHEAD JACKS

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
.141 Semi-Rigid	Solder	1.617	.969	1.016	W Bronze	Silver	716-27
.250 Semi-Rigid	Solder	1.617	.969	1.016	Silver	Silver	716-22

7/16 PANEL JACKS

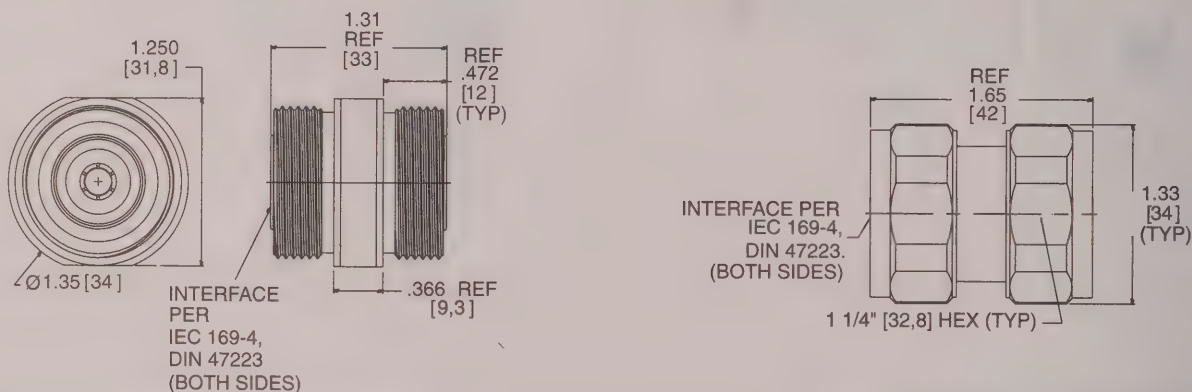
Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
RG393	Crimp	1.988	.649	1.250	W Bronze	Silver	716-2
.250 Semi-Rigid	Solder	1.62	—	1.250	Silver	Silver	716-69

Fig. 1



**Receptacle Jack
716-7**

Fig. 2



**Female to Female Adapter
APH-716F-F**

**Male to Male Adapter
APH-716M-M**

7/16 FEMALE INTERFACE — STRAIGHT

Cable	A	B	C	Body	Contact	Amphenol Number
M3 Treaded Stud	.846	.65	1.25	W Bronze	Silver	716-7
.115 Wide Slot	.846	.65	1.25	W Bronze	Silver	716-16
.104 Wide Slot	.850	.65	1.25	Silver	Silver	716-17G
.115 Solder Pocket	.846	.65	1.25	W Bronze	Silver	716-24

7/16 WITHIN SERIES ADAPTERS

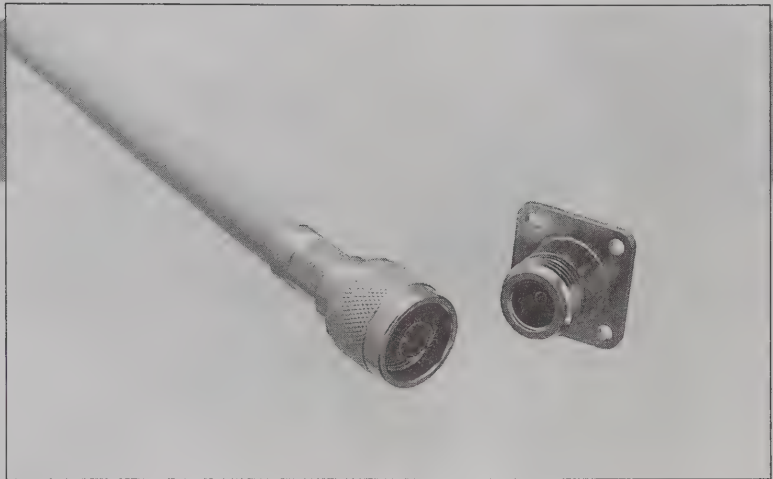
Description	FIG	Amphenol Number
7/16 Female to 7/16 Female Adapter	2	APH-716F-F
7/16 Male to 7/16 Male Adapter	2	APH-716M-M

Application Note:

In our adapter terminology, we describe an adapter by referring to it's own construction, not by what the adapter connects to.

Description

Amphenol N series coaxial connectors are medium size units which have constant 50 ohm impedance, and provide excellent radio frequency performance up to 11GHz.



Application

- Antenna
- Base Stations
- Microwave Components (Power Splitters & Combiners, Filters, Diplexors)
- Transmitters
- Broadcast
- Receivers
- Radar
- Test & Measurement
- Instrumentation
- LANs

Features/Benefits

- Accommodates a wide range of popular coaxial cables
- Provides threaded coupling mechanisms
- Available in crimp terminations to provide for low cost installation
- Military Grade product carries the M39012 designation
- Industrial Grade product designated with Amphenol part number (UG number where applicable)
- Commercial Grade part numbers denoted by "RFX" suffix

Type N

Specifications	110
Cable Plugs	111
Angle Plugs	112
Jacks	113
Receptacles, Accessories	114
Adapters	115

Low Intermodulation N Connectors

Specifications	116-117
Plugs	118-119
Jacks	120-121

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	0-11 GHz
Voltage rating	1,500 volts peak
Dielectric withstanding voltage	2,500 volts rms.
VSWR (MIL-C-39012 cable connectors)	M39012 straight connectors: 1.3 max. 0-11 GHz M39012 right angle: 1.35 max. 0-11 GHz
Other	Contact resistance: center contact 1.0 milliohm outer contact 0.2 milliohm RF leakage: -90 dB minimum at 3 GHz Insertion loss: 15 dB maximum at 10 GHz Insulation resistance: 5000 megohms minimum

MECHANICAL

Mating	5/8-24 threaded coupling
Cable affixment (braid or jacket)	All crimps: hex braid crimp. Clamps: screw-thread nut and braid clamp
Cable affixment (center conductor)	Crimp: crimp or solder All others: solder only
Captivated contact	All crimps. Others, where specified.
Cable retention	Crimps: 60-120 lbs. Clamps: 30-70 lbs.

MATERIAL

Contacts	Male: brass; Female: phosphor bronze or beryllium copper. Silver or gold plated
Other metal parts	Brass: ASTROplate® finish except M39012 silver.
Insulators	TFE, copolymer of styrene or glass-TFE (hermetic seal)
Weatherproof gaskets	Silicone rubber or synthetic rubber
Crimp ferrule	Copper

ENVIRONMENTAL

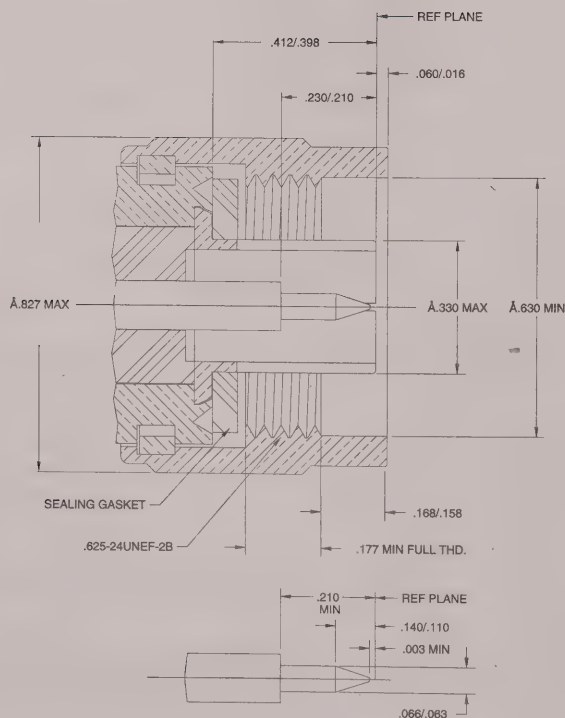
Temperature range	TFE -65°C to +165°C Copolymer of Styrene: -55°C to +85°C
Weatherproof	All series N with gaskets are weatherproof
Hermetic seals	Pass helium leak test of 2×10^{-8} cc/sec
Pressurized Shock	Compression seal MIL-Std. 202 method 213
Vibration	MIL-Std. 202 method 204 (test cond. B)
Moisture resistance	MIL-Std. 202 method 106
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature cycling	MIL-Std. 202 method 102 (test cond. C)
Altitude	MIL-Std. 202 method 105 (test cond. C)

MILITARY SPECIFICATIONS

MIL-C-39012 & MIL-A-55339	Where applicable
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* These characteristics are typical and may not apply to all connectors.

"N" PLUG



"N" JACK

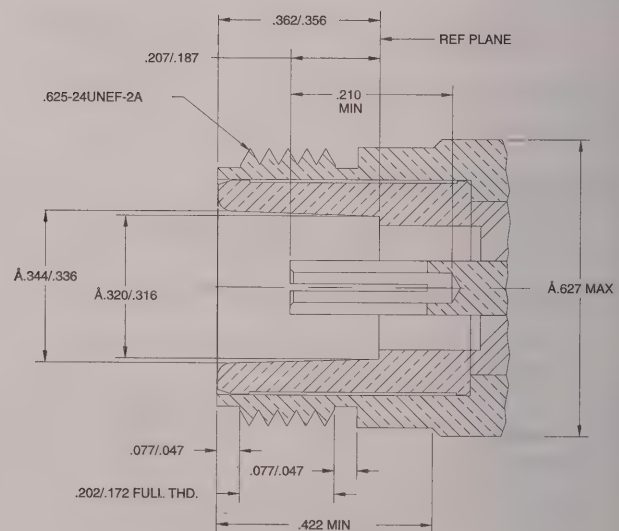
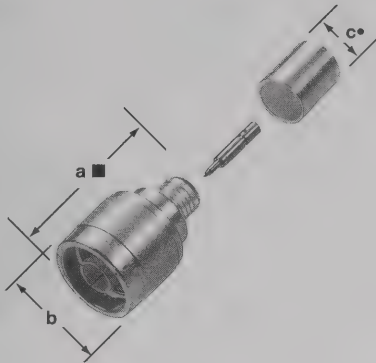


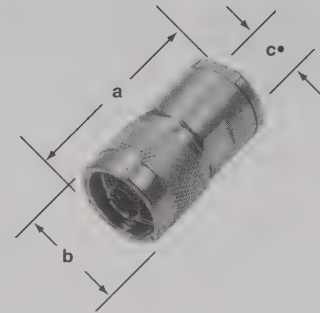
Fig. 1



Crimp-Crimp N Plugs

82-340	82-4425
82-332	82-4425-1003
82-5375	82-340-1052
82-5375-RFX	82-4426-1001
82-4427	82-4426-11RFX
82-4427-1006	82-4426-1002
82-5370	82-340-1054
82-4426	82-5993

Fig. 2



Clamp N Plugs

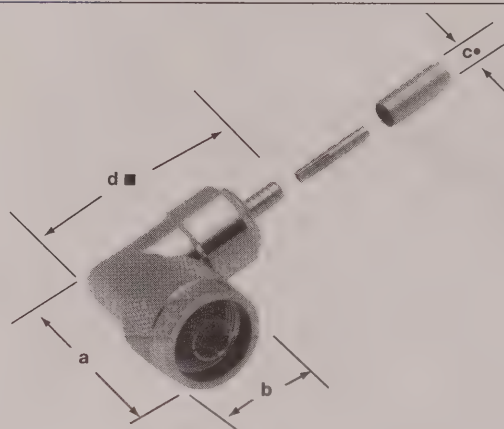
82-202
82-202-RFX
82-3202
82-312
34025
34025-RFX
82-202-1006

N CABLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.				
8, 213	Crimp	Crimp	1.48(37.7)■	.827(21.0)	.418(10.6)	C11	P33	D1	Lockwire Holes	M39012/01B0007	82-340	1 ▲
8, 9, 144, 165, 213	Clamp	Solder	1.50(38.1)	.827(21.0)	.444(11.3)	C8	P1	D9	Lockwire Holes	UG-21E/U	82-3202	2 ▲
	Clamp	Solder	1.50(38.1)	.827(21.0)	.444(11.3)	C8	P1	D1	Captivated Cont.	UG-1185/U	82-312	2 ▲
8, 9, 144, 165, 213, 214, 216, 225	Clamp	Solder	1.50(38.1)	.827(21.0)	.444(11.2)	C8	P1	D1	Lockwire Holes	UG-21D/U	82-202	2 ▲
	Clamp	Solder	1.50(38.1)	.827(21.0)	.437(11.1)	C8	P7	D1	—	—	82-202-RFX	2 ▲
9, 214	Crimp	Crimp	1.48(37.7)■	.827(21.0)	.438(11.1)	C11	P34	D1	Lockwire Holes	M39012/01B0008	82-332	1 ▲
9, 214, 225, 393	Crimp	Crimp	1.54(39.1)■	.827(21.0)	.438(11.1)	C11	P15	D1	—	—	82-4425-1003	1 ▲
55, 142, 223, TWB 1042	Crimp	Crimp	1.37(34.9)■	.827(21.0)	.220(5.6)	C11	P15	D1	Lockwire Holes	—	82-5370	1 ▲
58, 141, Amph TWB 5800	Crimp	Crimp	1.48(37.7)■	.827(21.0)	.206(5.2)	C11	P17	D1	Lockwire Holes	—	82-5375	1 ▲
	Crimp	Crimp	1.36(34.6)■	.827(21.0)	.210(5.3)	C11	P7	D1	—	—	82-5375-RFX	1 ▲
58, 141, 142A, 400, Amph TWB 5800	Clamp	Solder	1.38(34.9)	.827(21.0)	.219(5.4)	C8	P1	D1	Lockwire Holes	UG-536B/U	34025	2 ▲
	Clamp	Solder	1.31(33.2)	.827(21.0)	.212(6.4)	C8	P7	D1	—	—	34025-RFX	2 ▲
142, 142B, 400	Crimp	Crimp	1.38(35.0)■	.827(21.0)	.220(5.6)	C11	P15	D1	—	—	82-4427-1006	1 ▲
142, 400	Crimp	Crimp	1.45(36.9)■	.827(21.0)	.220(5.6)	C11	P34	D1	Lockwire Holes	M39012/01-0503	82-4427	1 ▲
213	Crimp	Crimp	1.45(36.9)■	.827(21.0)	.418(10.6)	C11	P34	D1	Lockwire Holes	M39012/01-0502	82-4426	1 ▲
214, 225, 393	Crimp	Crimp	1.45(36.9)■	.827(21.0)	.438(11.1)	C11	P33	D1	Lockwire Holes	M39012/01-0501	82-4425	1 ▲
Belden 9913, 9914	Crimp	Crimp	1.48(37.7)■	.827(21.0)	.418(10.6)	C11	P15	D1	—	—	82-340-1052	1 ▲
Ethernet® Cables Times AA4478(FEP), AA4479(PVC); Belden 89880(FEP), 9880(PVC)	Crimp	Crimp	1.45(36.9)■	.827(21.0)	.418(10.6)	C11	P15	D1	Gold Plt. Cont.	—	82-4426-1001	1 ▲
	Crimp	Crimp	1.45(36.9)■	.827(21.0)	.418(10.6)	C11	P1	D1	Silver Plt. Cont.	—	82-4426-1002	1 ▲
	Crimp	Crimp	1.48(37.7)■	.827(21.0)	.437(11.1)	C11	P7	D1	—	—	82-4426-11RFX	1 ▲
B9913, Amph TWB 4001	Clamp	Solder	1.50(38.1)	.827(21.0)	.443(11.2)	C8	P1	D1	—	—	82-202-1006	2 ▲
Amphenol TWB 4001	Crimp	Crimp	1.49(37.8)■	.850(21.6)	.418(10.6)	C11	P1	D9	Hex Coupling	—	82-340-1054	1 ▲
Amphenol TWB 6001	Crimp	Crimp	1.98(50.3)■	.930(23.6)	.625(15.9)	C11	P34	D9	Hex Coupling	—	82-5993	1 ▲

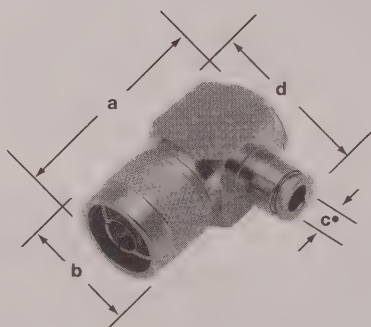
• accommodates cable diameter ■ includes outer ferrule ▼ Ethernet = Xerox Trademark ▲ Distributor stocked

Fig. 1



Crimp N Angle Plugs
82-4440-1001 **82-5995**
82-5374 **82-5988-1000**
82-4440

Fig. 2



Clamp N Angle Plug
 Cubic Body
18750

N ANGLE PLUGS

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	d	CAI	Plt.	Ins.			
9, 214, 225, 393	Crimp	Crimp	1.40(35.5)	.827(21.0)	.437(11.1)	1.95(49.5)■	C11	P28	D1	—	82-4440-1001	1
55, 142, 223 Amph TWB 1042	Crimp	Crimp	1.41(35.7)	.827(21.0)	.220(5.6)	1.98(50.2)■	C11	P11	D1	—	82-5374	1 ▲
58, 141, 142, Amph TWB 5800	Clamp	Solder	1.63(41.3)	.827(21.0)	.210(5.3)	1.22(31.0)	C8	P1	D1	—	18750	2
214, 225, 393	Crimp	Crimp	1.40(35.5)	.827(21.0)	.438(11.1)	1.95(49.5)■	C11	P33	D1	M39012/05-0501	82-4440	1 ▲
214, 393	Crimp	Solder	1.195(30.4)	.827(21.0)	.438(11.1)	1.62(4.1)■	C11	P33	D9	—	82-5988-1000	1
Amph TWB 6001	Crimp	Solder	1.32(33.5)	.850(21.6)	.625(15.9)	1.61(40.9)■	C11	P34	D9	Hex Coupling	82-5995	1
Amph TWB 4001, LMR 400, Belden 9913	Crimp	Solder	1.195(30.4)	.827(21.0)	.438(11.1)	1.62(4.1)■	C11	P33	D9	—	82-6048	1

• accommodates cable diameter ■ includes outer ferrule ▲ Distributor stocked

Type N Straight, Panel & Bulkhead Jacks

Amphenol®

Fig. 1

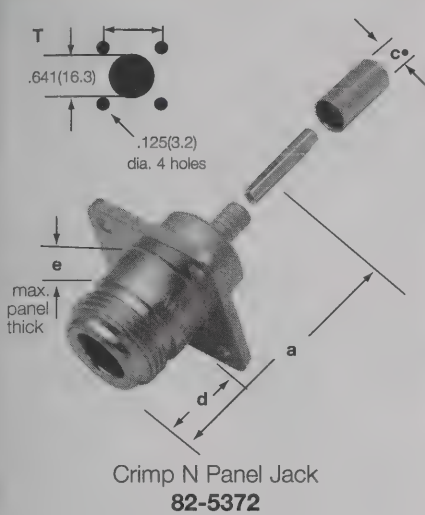


Fig. 2

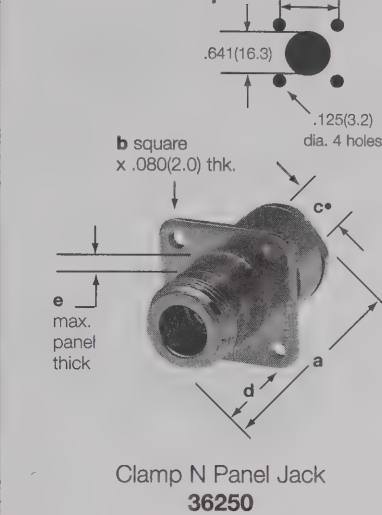


Fig. 3

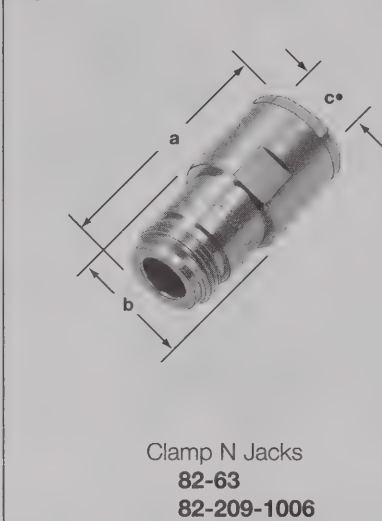


Fig. 4

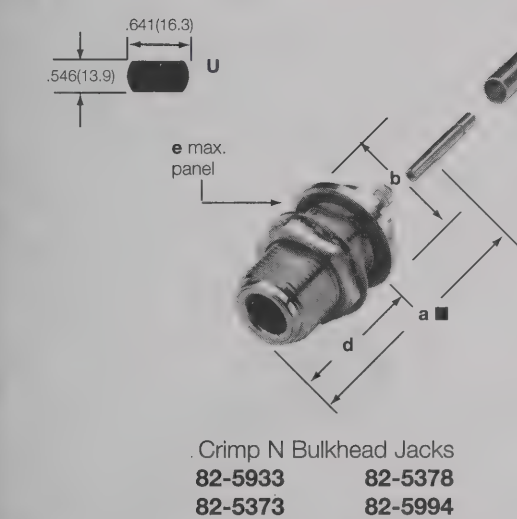
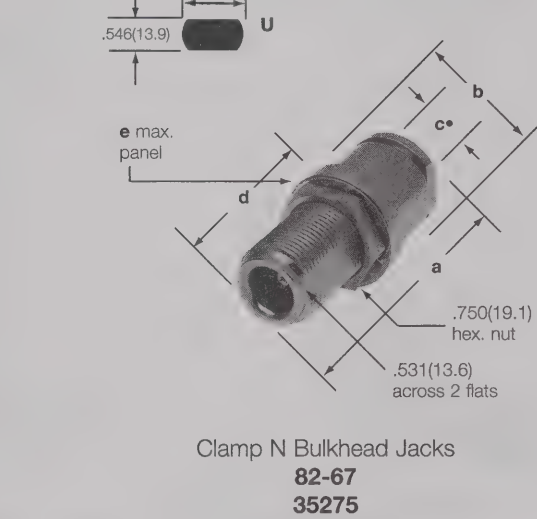


Fig. 5



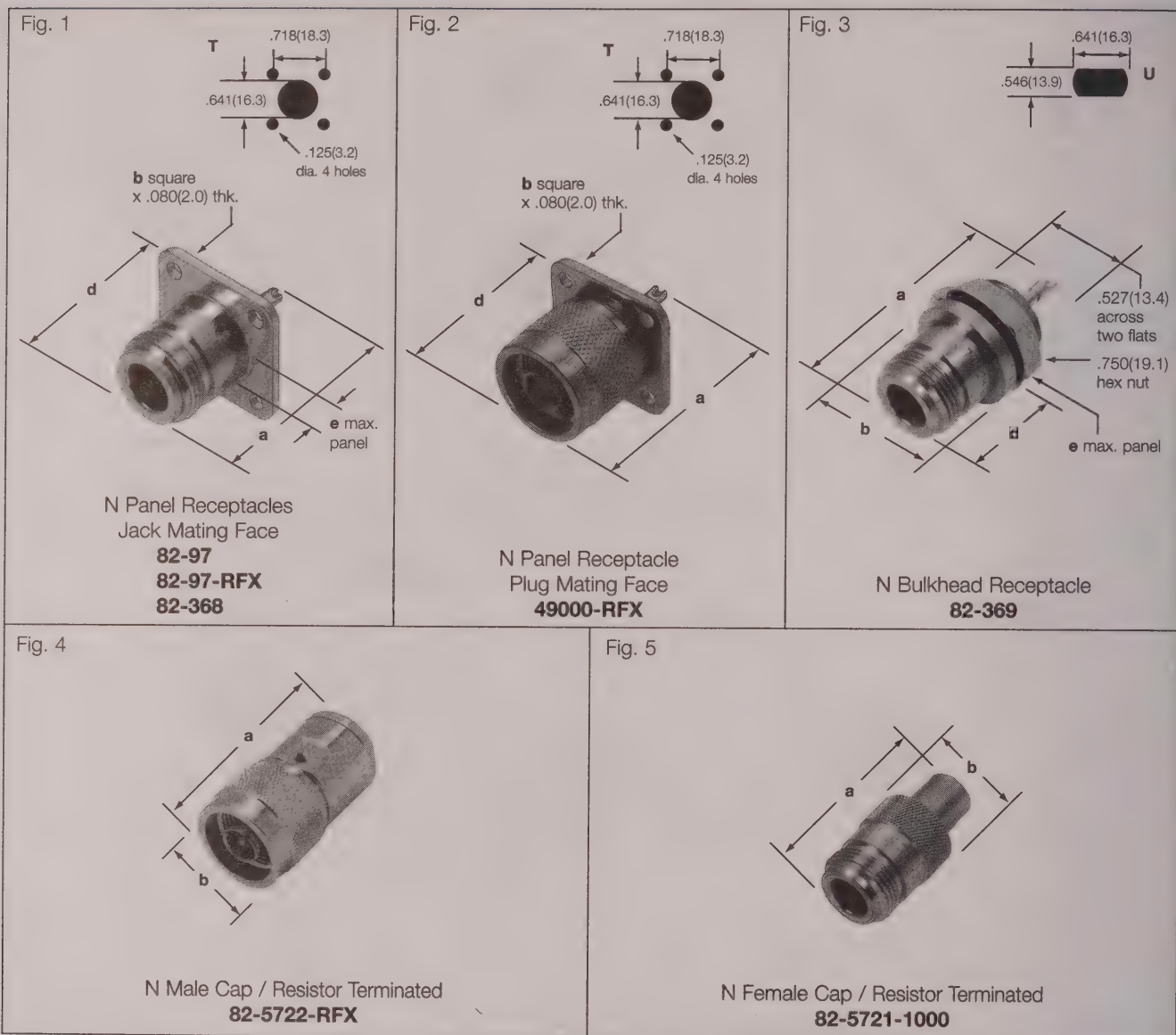
N STRAIGHT, PANEL & BULKHEAD JACKS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)					Notes			Mtg Hole	Military Number	Amphenol Number	Fig
		Outer	Inner	a	b	c •	d	e	CAI	Plt.	Ins.				
8, 9, 87A, 144,165,213, 214,216,225	Str.	Clamp	Solder	1.56(39.7)	.750(19.1)	.440(11.2)	—	—	C8	P1	D1	—	UG-23B/U	82-63	3 ▲
B9913, Times AA-6146	Str.	Clamp	Solder	1.56(39.6)	.750(19.1)	.443(11.3)	—	—	C8	P1	D9	—	—	82-209-1006	3
8, 9, 87A, 144,165,213, 214,216,225	Bulkh.	Clamp	Solder	1.75(44.5)	.875(22.2)	.440(11.2)	.856(21.7)	.250(6.4)	C8	P1	D1	U	UG-160A/U	82-67 ★	5
55, 58, 141,	Panel	Clamp	Solder	1.50(38.1)	1.00(25.4)	.224(5.7)	.656(16.7)	.219(5.6) ▼	C8	P1	D1	T	UG-1095A/U	36250	2
55, 58, 141, 142, 223	Bulkh.	Clamp	Solder	1.67(42.5)	.813(20.6)	.224(5.7)	.910(23.1)	.317(8.1)	C8	P1	D1	U	UG-556B/U	35275	5
55, 141, 142	Panel	Crimp	Crimp	1.56(39.7) ■	1.00(25.4)	.220(5.6)	.576(14.6)	.125(3.2) ▼	C11	P15	D1	T	—	82-5372	1 ▲
55, 142, 223	Bulkh.	Crimp	Crimp	1.84(46.8) ■	.875(22.2)	.220(5.6)	.935(23.7)	.250(6.4)	C11	P15	D1	U	—	82-5373	4 ▲
188, 316	Bulkh.	Solder	Crimp	1.59(40.4) ■	.866(22.0)	.178(4.5)	.917(23.3)	.315(8.0)	C11	P15	D9	U	—	82-5933	4
58, 141, TWB 5800	Bulkh.	Crimp	Crimp	1.74(44.2) ■	.872(22.1)	.206(5.2)	.926(23.5)	.250(6.4)	C11	P34	D1	U	—	82-5378	4
TWB 6001	Bulkh.	Crimp	Crimp	2.21(56.1) ■	.933(23.7)	.625(15.9)	.926(23.5)	.250(6.4)	C11	P34	D9	U	—	82-5994	4

• accommodates cable diameter ■ Captivated contact ★ IBM6028495 ▼ max. panel when rear mounted thru panel ▲ Distributor stocked

Type N Receptacles & Accessories

Amphenol®



N PANEL, ANGLE PANEL & BULKHEAD RECEPTACLES

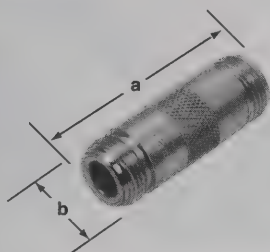
Description	Terminal Type	Dimensions, inches (millimeters)				Plt.	Ins.	Mtg Hole	Military Number	Amphenol Number	Fig.
		a	b	d	e						
Panel Receptacle (Jack) 4-hole Square Flange, Front or Rear Mount	Solder Cup	1.11(28.2)	1.00(25.4)	.656(16.7)	.187(4.7)▼	P1	D1	T	UG-58A/U	82-97	1
	Solder Cup	1.13(28.7)	1.00(25.4)	.656(16.7)	.187(4.7)▼	P7	D1	T	—	82-97-RFX	1
	Solder Cup	1.11(28.2)	1.00(25.4)	.656(16.7)	.187(4.7)▼	P34	D1	T	M39012/04-0002	82-368	1
Panel Receptacle (Plug) 4-hole Square Flange, Front Mount Only	Solder Cup	1.09(27.8)	1.00(25.4)	.745(18.9)	—	P7	D6	T	—	49000-RFX	2
Bulkhead Receptacle (Jack) Front Mount, Hermetically Sealed	Solder Cup	1.58(40.1)	.813(20.6)	.707(18.0)	.209(5.3)	P34	D11	U	M39012/04-0001	82-369	3

N CAPS

Description	Dimensions, inches (millimeters)		Plt.	Ins.	Military Number	Amphenol Number	Fig.
	a	b					
Male Cap Resistor Terminated, 50Ω 5%, 1 Watt	1.30(33.0)	.827(21.0)	P7	D1	—	82-5722-RFX	4
Female Cap Terminator, 49.9Ω 1%, 1 Watt	1.30(33.0)	.656(15.7)	P17	D1	—	82-5721-1000	5

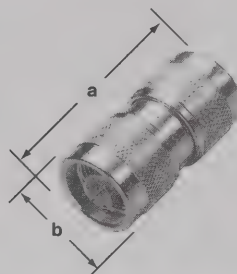
▼ max. panel when rear mounted thru panel ▲ Distributor stocked

Fig. 1



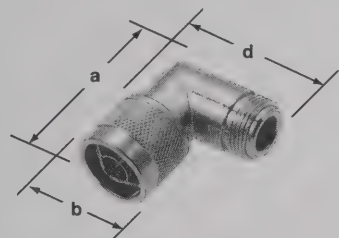
N Straight Adapter, Jack-Jack
82-101

Fig. 2



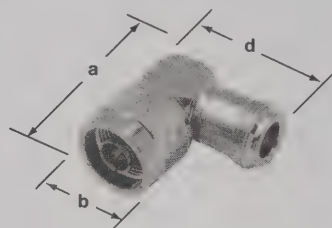
N Straight Adapter, Plug-Plug
82-100

Fig. 3



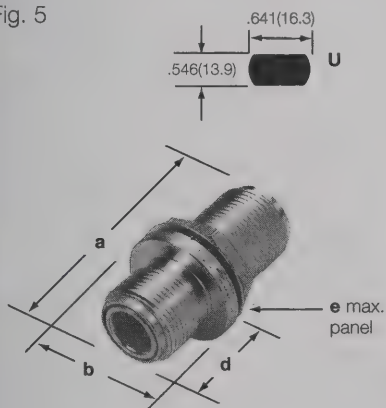
N Angle Adapters, Plug-Jack
82-64

Fig. 4



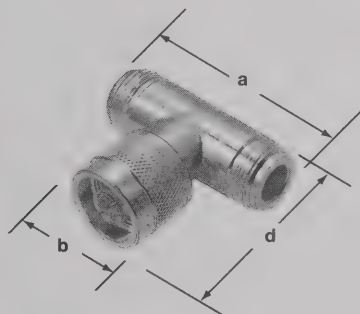
N Angle Adapter, Plug-Jack
82-213
82-64-RFX

Fig. 5



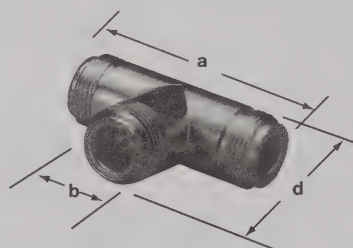
N Bulkhead Adapter
Jack-Jack
82-66

Fig. 6



N Tee Adapter
Jack-Plug-Jack
82-102

Fig. 7



N Tee Adapter
Jack-Jack-Jack
82-99

N ADAPTERS

Adapter Ends	Description	Dimensions, inches (millimeters)				Mtg Hole	Construction Notes			Military Number	Amphenol Number	Fig.
		a	b	d	e		Plt.	Ins.	Other			
Jack-Jack	Straight	1.78(45.2)	.656(16.7)	—	—	—	P1	D1	—	UG-29B/U	82-101	1 ▲
Plug-Plug	Straight	1.59(40.5)	.813(20.6)	—	—	—	P4	D1	—	UG-57B/U	82-100	2 ▲
Jack-Plug	Angle	1.44(36.5)	.813(20.6)	1.37(34.9)	—	—	P1	D1	Mitre Body	UG-27A/U	82-64	3 ▲
Jack-Plug	Angle	1.44(36.5)	.813(20.6)	1.37(34.9)	—	—	P7	D1	Cubic Body	—	82-64-RFX	4 ▲
Plug-Jack	Angle	1.31(33.3)	.813(20.6)	1.40(35.7)	—	—	P1	D1	Cubic Body	UG-27C/U	82-213	4 ▲
Jack-Jack	Bulkhead	1.63(41.3)	.813(20.6)	.708(18.0)	.312(7.9)	U	P1	D6	Pressurized	UG-30/U	82-66	5 ▲
Jack-Plug-Jack	Tee	1.75(44.5)	.813(20.6)	1.48(37.6)	—	—	P5	D1	—	UG-107B/U	82-102	6 ▲
Jack-Jack-Jack	Tee	1.75(44.5)	.656(16.7)	1.22(31.0)	—	—	P5	D1	—	UG-28A/U	82-99	7 ▲

▲ Distributor stocked

Description

Intermodulation Distortion (IMD) is of increasing concern to many Wireless Infrastructure OEMs due to the need for higher power applications and increased receiver sensitivity performance. Having the ability to measure IMD in-house gives Amphenol the unique ability to understand the affects of our connector designs on IMD generation and enabling Amphenol to design the highest performance IMD connectors in the industry.

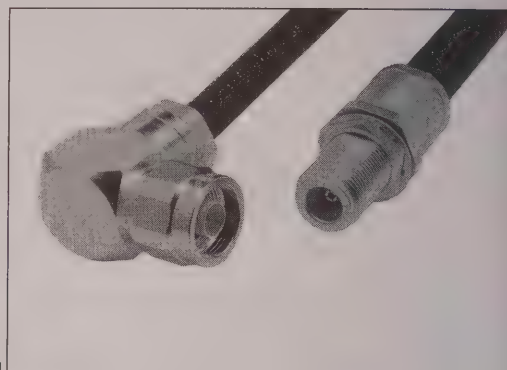
Our new series of Low Intermodulation N connectors is a result of our efforts in connector design optimization.

Applications

- Cellular
- PCS
- Microwave Radio
- Paging

Features/Benefits

- Typical IMD -125 dBm
- All components silver plated
- 360° outer contacts
- Gold plated inner contacts
- EZ HEZTM coupling nut for ease of installation
- Available for 1/4", 3/8" and 1/2" superflexible corrugated cables, and 1/2", 7/8", 1 1/4", 1 5/8", standard flexible corrugated cables
- Consult your Amphenol sales representative for details



Type N

Low Intermodulation

Amphenol®



SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	11.0 GHz
Return Loss (Freq. GHz)	33 dB (1-2 GHz) 28 dB (2-3 GHz)
Operating voltage	max. 707 vrms
Dielectric withstanding voltage	2,000 vdc
Other	Peak power: max 10kW Avg. power: max .60kW Insulation resistance: min 5,000 MOhms Insertion loss: .05 freq GHz Shielding effectiveness: min. 125 dB 3rd order IM product, typical -125 dBm (-168 dBc)

MECHANICAL

Mating	MIL-Std. 348
Inner attachment method	Solder or captivated
Outer attachment method	Compression
Assembly torque	18/22 lb-ft (25/30 N-m)
Coupling torque	15.00 lb-in (1.70 N-m)
Coupling nut retention force	100.00 lbs (444.80 N)
Connector durability	500 cycles, 12 cycles/min

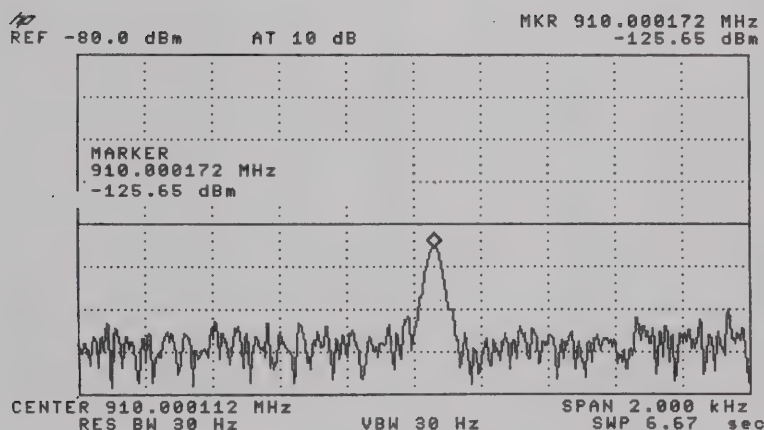
MATERIAL

Body	Brass, silver plated
Contacts	Outer: Brass, silver plated Inner: BeCu, gold plated
Other metal parts	Brass; silver plated
Insulators	TFE
Gaskets	Silicone rubber

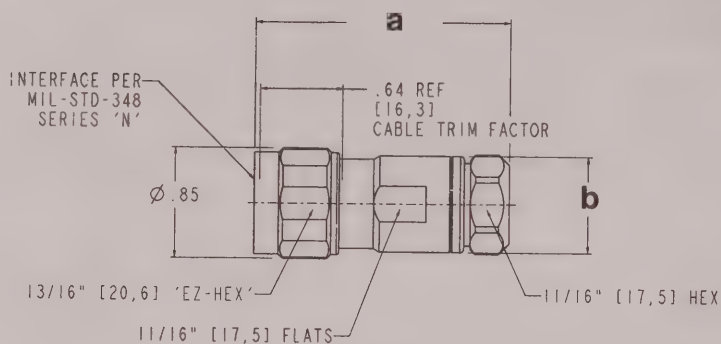
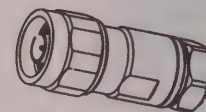
ENVIRONMENTAL

Temperature range	Operating: -40°C to +150°C Storage: -70°C to +100°C
Thermal Shock	MIL-Std. 202 method 107 (test cond. A-1)
Immersion	IEC 529, IP68
Vibration	MIL-Std. 202 method 204 (test cond. B)
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Mechanical Shock	MIL-Std. 202 method 213 (test cond. I)

* These characteristics are typical and may not apply to all connectors.



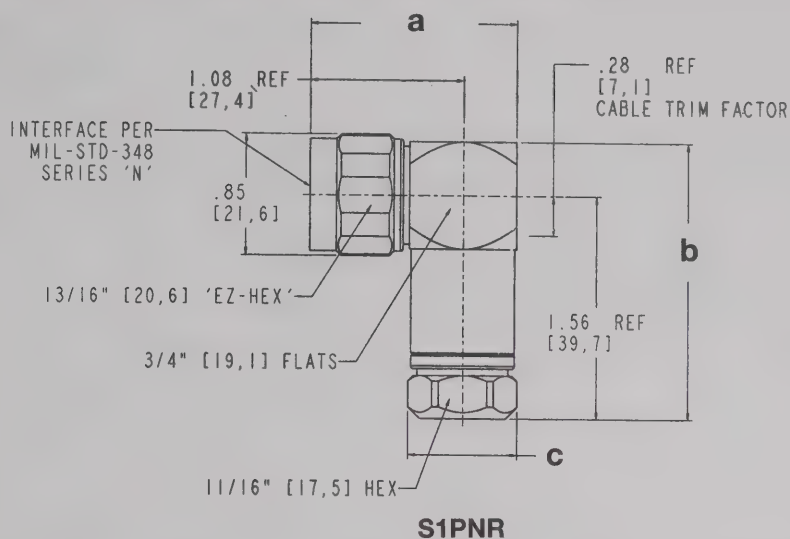
Type N



S1PNM

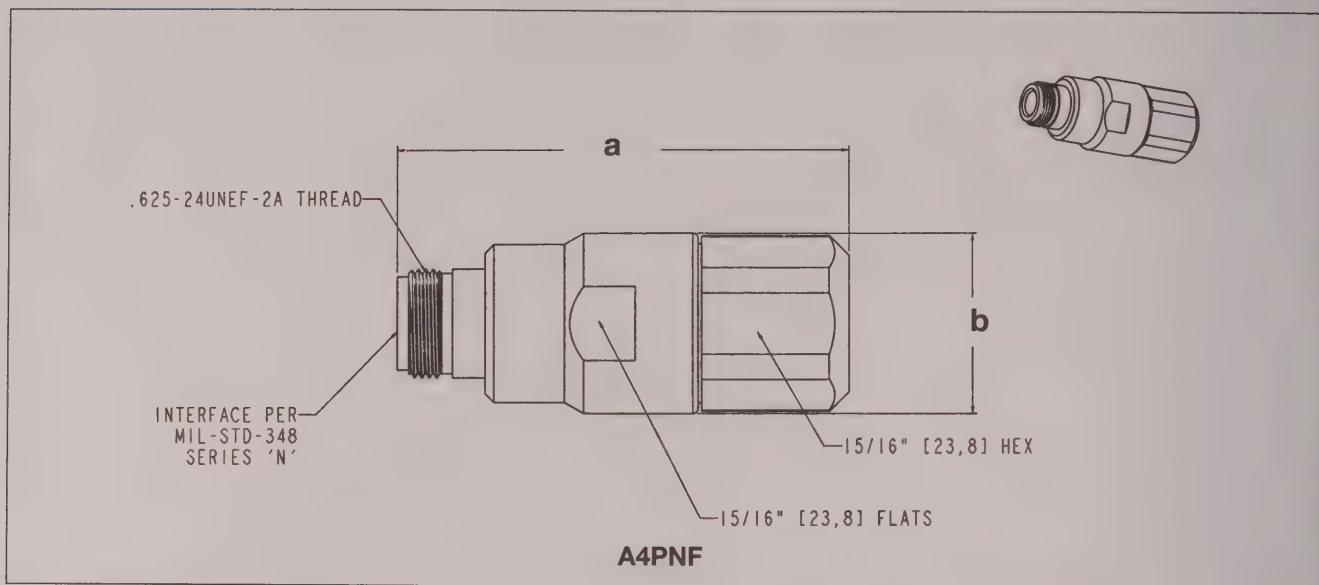
N MALE INTERFACE — STRAIGHT

Cable	Inner Attachment	a	b	Body	Contact	Amphenol Number
1/4" Helical	Solderless	1.97	.74	Silver	Gold	S1PNM
1/4" Helical	Solder	1.97	.74	Silver	Gold	S1PNM-S
3/8" Helical	Solderless	2.437	.875	Silver	Gold	S2PNM
3/8" Helical	Solder	2.437	.875	Silver	Gold	S2PNM-S
3/8" Helical	Solderless	2.437	.875	Silver	Gold	S2PNM-SO
1/2" Helical	Solderless	2.46	.950	Silver	Gold	S4PNM
1/2" Helical	Solder	2.46	.950	Silver	Gold	S4PNM-S
1/2" Helical	Solder	2.46	.950	Unplated	Silver	S4NM-S
1/2" Annular	Solderless	2.81	1.025	Silver	Gold	A4PNM
1/2" Annular	Solder	2.81	1.03	Silver	Gold	A4PNM-S
1/2" Annular	Solder	2.81	1.03	Unplated	Silver	A4NM-S
1/2" Annular	Solderless	2.81	1.025	Unplated	Silver	A4NM
7/8" Annular	Solderless	2.99	1.62	Silver	Gold	A5PNM
7/8" Annular	Solderless	2.99	1.62	Unplated	Silver	A5NM



N MALE INTERFACE — RIGHT ANGLE

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
1/4" Helical	Solderless	1.45	1.94	.76	Silver	Gold	S1PNR
3/8" Helical	Solderless	1.679	2.30	.875	Silver	Gold	S2PNR-SO
1/2" Helical	Solder	1.74	1.91	.94	Silver	Gold	S4PNR-S
1/2" Helical	Solderless	1.74	2.26	.94	Silver	Gold	S4PNR
1/2" Annular	Solderless	1.80	2.53	1.00	Silver	Gold	A4PNR

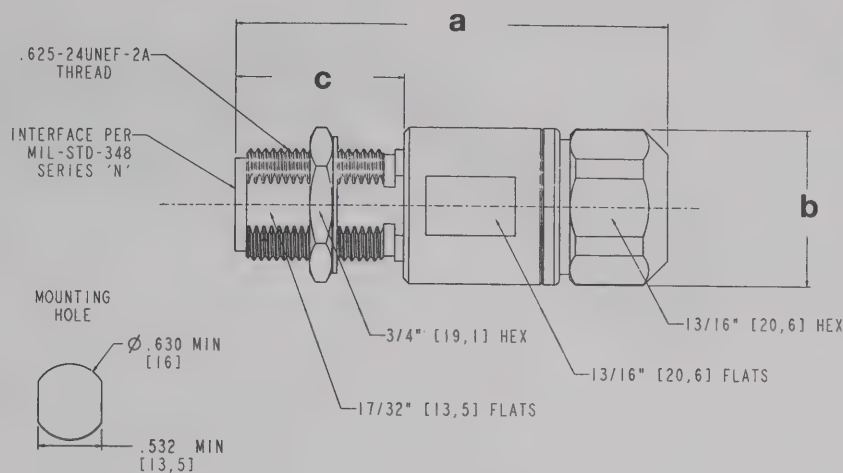


N FEMALE INTERFACE — STRAIGHT

Cable	Inner Attachment	a	b	Body	Contact	Amphenol Number
1/4" Helical	Solderless	1.87	.74	Silver	Gold	S1PNF
1/2" Helical	Solderless	2.36	.95	Silver	Gold	S4PNF
1/2" Helical	Solder	2.36	.95	Silver	Gold	S4PNF-S
1/2" Helical	Solder	2.36	.95	Unplated	Silver	S4NF-S
1/2" Annular	Solderless	2.56	1.03	Silver	Gold	A4PNF
1/2" Annular	Solder	2.56	1.03	Silver	Gold	A4PNF-S
1/2" Annular	Solder	2.56	1.03	Unplated	Silver	A4NF-S
1/2" Annular	Solderless	2.56	1.03	Unplated	Silver	A4NF
7/8" Annular	Solderless	2.64	1.62	Unplated	Silver	A5NF
7/8" Annular	Solderless	2.64	1.62	Silver	Gold	A5PNF
1 1/4" Annular	Solderless	3.81	1.87	Silver	Gold	A6PNF
1 1/4" Annular	Solderless	3.81	1.87	Silver	Gold	A6PNF-H
1 1/4" Annular	Solderless	3.81	1.87	Unplated	Silver	A6NF
1 1/4" Annular	Solderless	3.81	1.87	Unplated	Gold	A6NF-H
1 5/8" Annular	Solderless	4.26	2.36	Silver	Silver	A7PNF
1 5/8" Annular	Solderless	4.26	2.36	Unplated	Silver	A7NF

Type N Jack Bulkhead Mount

Amphenol®

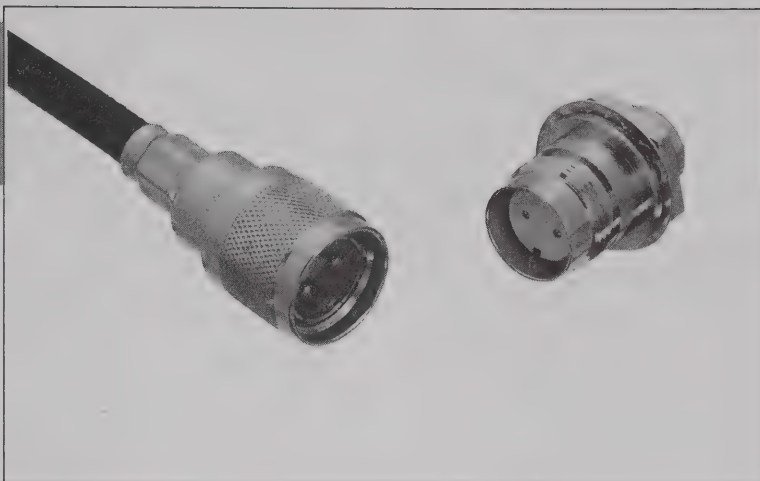


S2PNF-BH

N FEMALE BULKHEAD MOUNT

Cable	Inner Attachment	a	b	c	Body	Contact	Amphenol Number
3/8" Helical	Solderless	2.42	.88	.94	Silver	Gold	S2PNF-BH

Notes



Description

Amphenol twinaxial connectors are used with 78 and 95 ohm twin conductor cables. Due to the improved shielding characteristic ($>30\text{dB}$), these connectors are used in balanced low level and high sensitivity circuits.

Applications

- Computer/Networks
- Process Equipment

Features/Benefits

Twinax – These large threaded connectors feature polarized key and keyway construction and operate in the 0-200 MHz range with a 500v peak voltage rating.

In mating polarized connector types, the plug must be properly indexed for polarization with the mating receptacle before completing the coupling operation.

Twinax

Specifications	124
Connectors	125

SPECIFICATIONS*

ELECTRICAL

Impedance	Used with 78 ohm and 95 ohm twin conductor cables.
Frequency range	Keyway polarization: 0-200 MHz, 0-500 MHz with caution.
Voltage rating	Keyway polarization: 500 volts peak.

ENVIRONMENTAL

Temperature range	Copolymer of Styrene: - 55°C to +85°C Noryl: - 45°C to +121°C
Weatherproof	All Twinax Contact connectors are weatherproof when mated.

* These characteristics are typical and may not apply to all connectors.

MECHANICAL

Mating	Keyway polarization: 3/4-20 threaded coupling keyed 90°
Cable affixment	Braid clamp, "V" groove gasket and clamp nut mechanism.

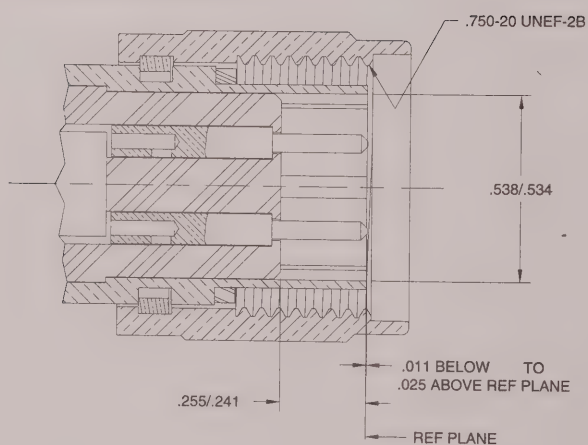
MATERIAL

Contacts	Male: brass Female: beryllium copper. Silver plated.
Other metal parts	Brass: Nickel finish
Insulators	Copolymer of styrene, Noryl, or polyester, as listed.
Clamp gaskets	Silicone rubber or synthetic rubber

MILITARY SPECIFICATIONS

Amphenol twinaxial connectors, polarized key and keyway construction, meet applicable sections of MIL-C-3655.

.750-20 TWINAX PLUG



.750-20 TWINAX JACK

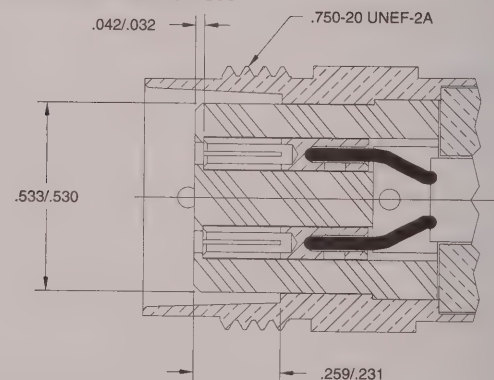
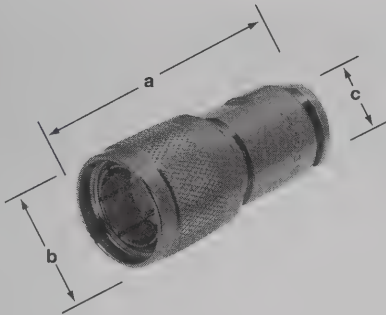
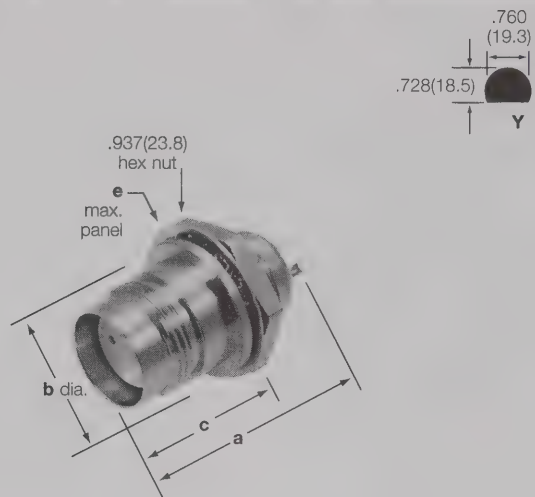


Fig. 1



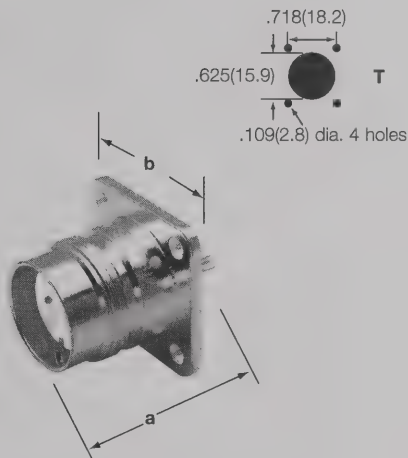
Clamp Twinax Plugs
32225
82-5589
82-5589-RFX

Fig. 2



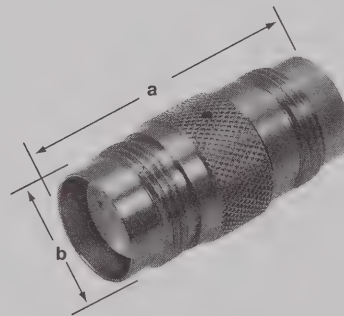
Twinax Receptacle, Front Mounted
82-5590-RFX

Fig. 3



Twinax Panel Receptacle
6225

Fig. 4



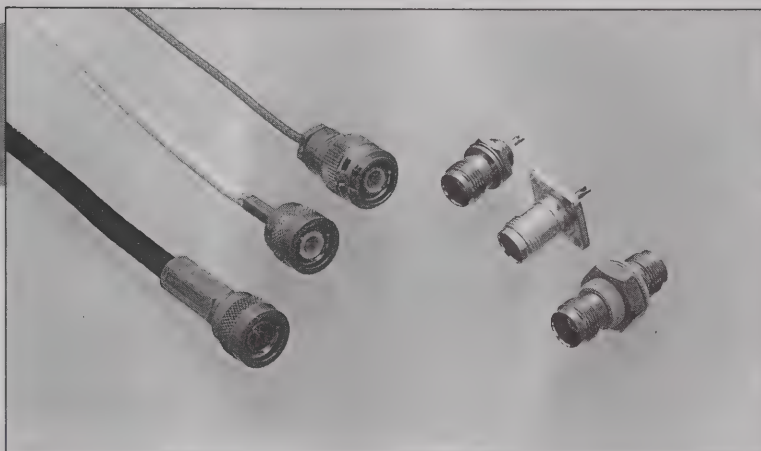
Twinax Barrel Adapter Jack-Jack
82-5588
82-5588-RFX

TWINAX CONNECTORS

Cable/ Description		Cable Attachment		Dimensions, inches (millimeters)				Notes			Mtg. Hole	IBM Ref. Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c	e	CAI	Plt.	Ins.				
RG-22	Plug	Clamp	Solder	1.75(44.5)	.875(22.2)	.444(11.3)●	—	C19	P4	D6	—	5052750	32225	1
Times AA-6026, AA6076, AA-6079 Brand Rex T8756A Belden 8227, 9207 IBM 7362211	Plug	Clamp	Solder or Crimp	1.89(48.0)	.890(22.6)	.340(8.7)●	—	C19	P1	D12	—	7362229	82-5589	1 ▲
Receptacle, Front Mount, Solder Cup Terminals				1.89(48.0)	.890(22.6)	.340(8.7)●	—	C19	P1	D22	—	—	82-5589-RFX	1 ▲
Receptacle, Front Mount, Solder Cup Terminals				1.58(40.1)	.945(24.0)	.787(20.0)	.295(7.5)	—	P7	D25	Y	—	82-5590-RFX	2
Panel Receptacle				1.19(30.2)	1.00(25.4)	—	—	—	P4	D6	T	—	6225	3
Barrel Adapter, Jack-Jack				1.67(42.4)	.768(19.5)	—	—	—	P1	D12	—	—	82-5588	4 ▲
Barrel Adapter, Jack-Jack				1.67(42.4)	.768(19.5)	—	—	—	P7	D25	—	—	82-5588-RFX	4 ▲
Pkg of 50 Male Contacts for 82-5589				.740(18.8)	.090(2.3)	.043(1.1)●	—	—	P27	—	—	—	82-10588	‡

● accommodates cable diameter ▲ Distributor stocked

Notes



Description

Amphenol TNC connectors are miniature, weatherproof* units which have constant 50 ohm impedance and operate in the 0-11GHz frequency range. These features make TNC connectors an ideal choice for use in cellular mobile communications, and test and instrument equipment. TNC connectors are also widely used in airframe, aerospace and radar applications where extreme vibration is a factor.

Applications

- Cellular Mobile Phones
- Test and Measurement
- Instrumentation
- Aircraft and Missile
- Radar
- Computer Networks/LANs
- Base Stations
- Microwave Components (Filters, Diplexors)

Features/Benefits

TNC connectors, where indicated, are recognized under the Component Program of Underwriters' Laboratories, Inc. These connectors are suitable for use in applications where safety can not be compromised such as test and measurement, and medical equipment.

Designed to accommodate a wide range of popular miniature coaxial cables, TNC connectors are available with crimp terminations which provide lower cost installation.

TNC

Specifications	128
Plugs	129
Angle Plugs & Jacks	130
PCB Receptacles	131

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms nominal
Frequency range	0-11 GHz
Voltage rating	500 volts peak
Dielectric withstanding voltage	1,500 volts rms.
VSWR	M39012 straight connectors: 1.3 max. 0-11 GHz M39012 right angle: 1.35 max. 0-11 GHz
Other (MIL-C-39012 cable connectors)	Contact resistance: center contact 1.5 milliohm outer contact 0.2 milliohm Braid to body 0.1 milliohm RF leakage: -60 dB minimum at 3 GHz Insertion loss: 0.18 dB at 9 GHz Insulation resistance: 5000 megohms (min.)

MILITARY SPECIFICATIONS

MIL-C-39012	Where applicable
-------------	------------------

* Amphenol TNC connectors are classified as weatherproof only when used in combination with other Amphenol TNC connectors.

MECHANICAL

Mating	7/16 threaded coupling
Cable affixment (braid or jacket)	All crimps: hex braid crimp. Clamps: screw-thread nut and braid clamp.
Cable affixment (center conductor)	Crimps: crimp or solder All others: solder only
Captivated contact	All crimps Others: where specified.
Cable retention	Clamps: 20-50 lbs. Crimps: 20-100 lbs.

MATERIAL

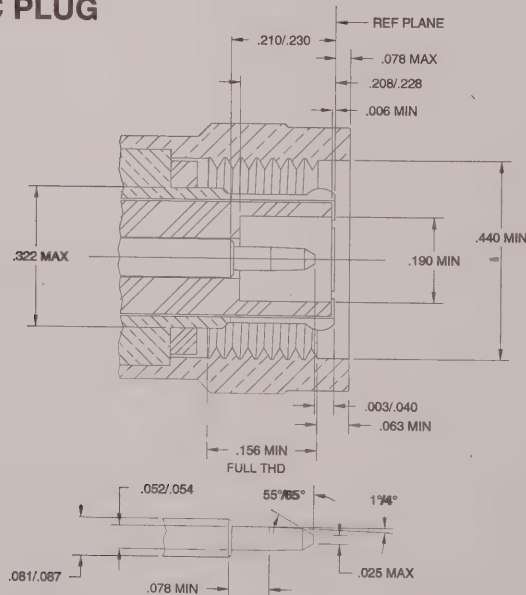
Center contacts	Male: Brass; female beryllium copper or phosphor bronze. Silver or gold plated
Other metal parts	Brass: Nickel finish except M39012 silver.
Insulators	TFE, Delrin
Clamp gaskets	Synthetic rubber, Silicone rubber
Crimp ferrule	Copper

ENVIRONMENTAL

Temperature range	- 65°C to + 165°C
Weatherproof	Clamps with clamp gaskets. Other Crimps with heat-shrink tubing.
Hermetic seals	Pass helium leak test of 2×10^{-8} cc/sec
Shock	MIL-Std. 202 method 202
Vibration	MIL-Std. 202 method 204 (test cond. D)
Moisture resistance	MIL-Std. 202 method 106
Corrosion	MIL-Std. 202 method 101 (test cond. B)
Temperature cycling	MIL-Std. 202 method 102 (test cond. D)
Altitude	MIL-Std. 202 method 105 (test cond. C)

* These characteristics are typical and may not apply to all connectors.

TNC PLUG



TNC JACK

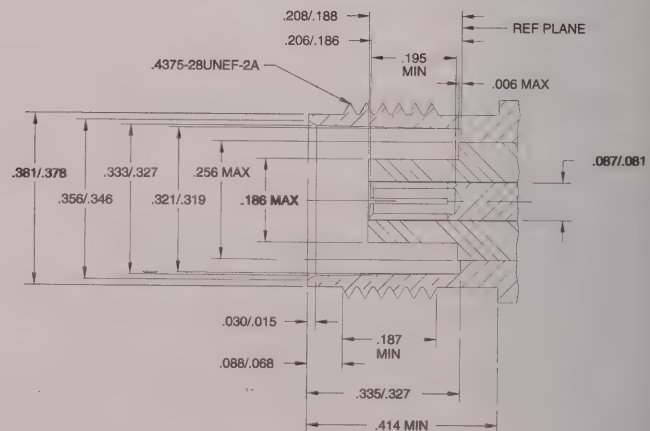
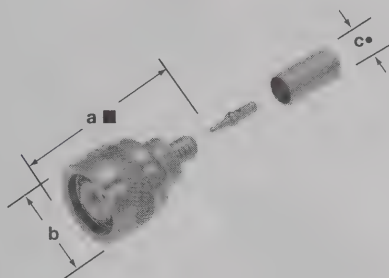


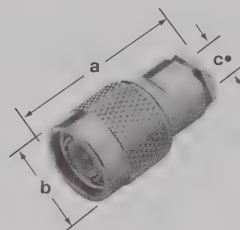
Fig. 1



TNC Crimp Type Plugs

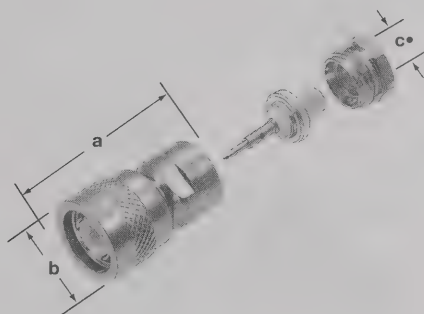
36825
31-2367
31-2367-RFX
31-2368
31-2373
31-4452

Fig. 2



TNC Clamp Type Plug
79875

Fig. 3



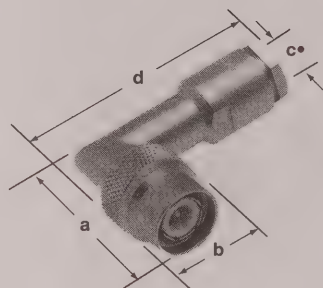
TNC QUICKTRIM® Plug
31-5061

TNC STRAIGHT PLUGS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)			Notes			Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c •	CAI	Plt.	Ins.			
55, 58, 141, 142, 223, 400	Plug	Clamp	Solder	1.06(27.0)	.610(15.5)	.224(5.7)	C34	P1	D1	—	79875*	2
58, 141	Plug	Crimp	Crimp	1.12(28.6)■	.610(15.5)	.206(5.2)	C36	P15	D1	—	36825	1
	Plug	Crimp	Crimp	1.12(28.6)■	.610(15.5)	.206(5.2)	C36	P15	D1	M23329/4-01,4-03	31-2367	1
	Plug	Crimp	Crimp	1.12(28.6)■	.610(15.5)	.206(5.2)	C36	P7	D23	—	31-2367-RFX	1
59, 62	Plug	Crimp	Crimp	1.13(28.7)■	.610(15.5)	.261(6.6)	C36	P15	D1	M23329/4-05	31-2368	1
	Plug	QUICKTRIM®		1.03(26.2)	.610(15.5)	.252(6.4)	C37	P15	D1	—	31-5061	3
142, 223	Plug	Crimp	Crimp	1.12(28.6)■	.562(14.3)	.220(5.6)	C36	P15	D1	M23329/4-02,4-04	31-2373	1
142, 400	Plug	Crimp	Crimp	1.12(28.6)■	.500(12.7)	.220(5.6)	C36	P34	D1	M39012/26-0503	31-4452*	1

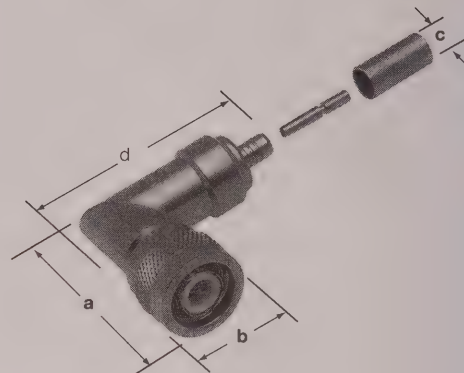
* recognized under the component program of U.L., Inc. ▲ distributor stocked ■ includes outer ferrule

Fig. 1



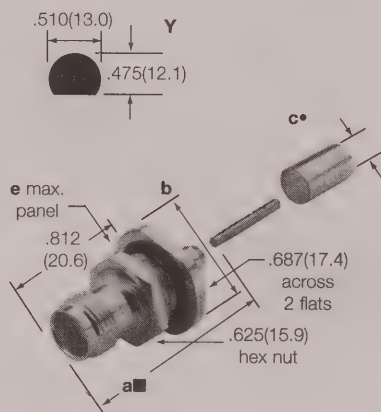
TNC Clamp Type Angle Plug
79075

Fig. 2



TNC Crimp Type Angle Plug
31-2381

Fig. 3



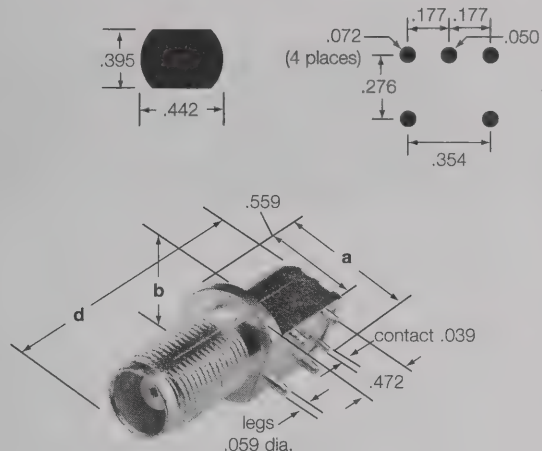
TNC Crimp Type Bulkhead Jack
31-2318

TNC ANGLE PLUGS & JACKS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c •	d	CAI	Plt.	Ins.			
55, 58, 141 142, 223, 400	Angle Plug	Clamp	Solder	1.12(28.6)	.610(15.5)	.224(5.7)	1.58(40.1)	C34	P1	D1	—	79075 *	1
55, 142, 223, 400	Angle Plug	Crimp	Crimp	1.19(30.2)	.562(14.3)	.220(5.6)	1.58(40.1)■	C36	P17	D1	—	31-2381	2
174, 188, 316	Bkhd Jack	Crimp	Crimp	1.31(33.3)■	.795(20.2)	.115(2.9)	e = .115(2.9)	C36	P15	D1	—	31-2318 *	3

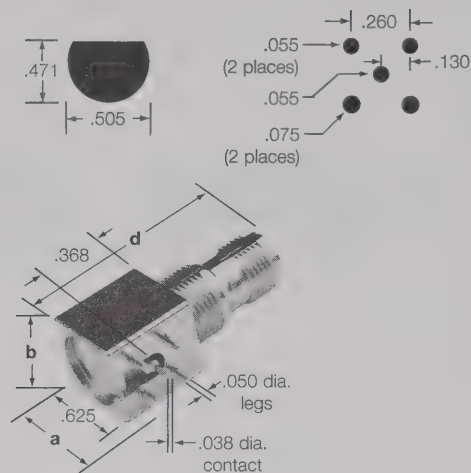
* recognized under the component program of U.L., Inc. • accommodates cable diameter ■ includes outer ferrule ▲ distributor stocked

Fig. 1



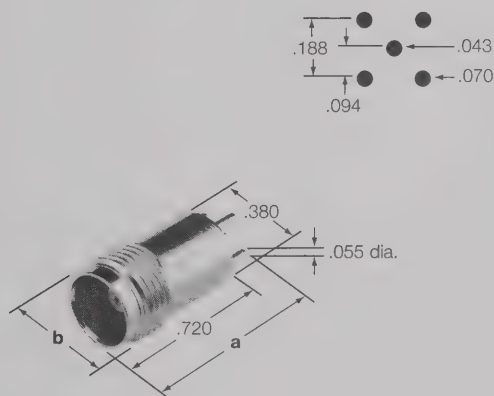
TNC Right Angle PCB Receptacle
31-5607

Fig. 2



TNC Right Angle PCB Receptacle
31-5660

Fig. 3



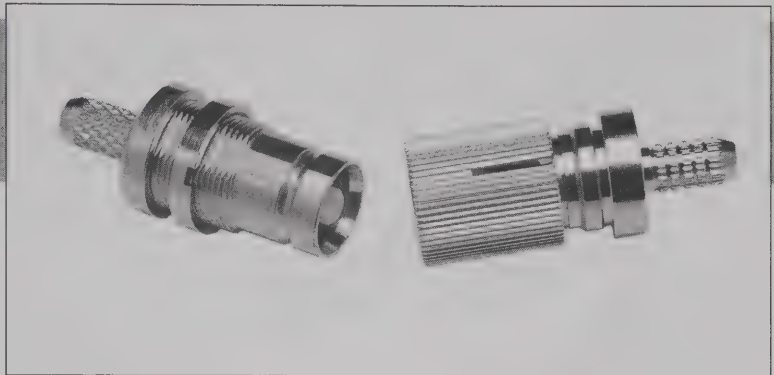
TNC Vertical PCB Receptacle
31-71063

TNC PRINTED CIRCUIT BOARD RECEPTACLES

Description	n	Dimensions, inches (millimeters)			Notes		Amphenol Number	Fig.
		a	b	d	Pit.	Ins.		
TNC Right Angle Printed Circuit Board Receptacle		.657 (16.7)	.642 (16.3)	1.366 (34.7)	P36/P27	D1	31-5607	1
TNC Right Angle Printed Circuit Board Receptacle ☆		.756 (19.2)	.580 (14.7)	1.500 (38.1)	P6	D1/31	31-5660	2 ▲
TNC Vertical Printed Circuit Board Receptacle		.880 (22.4)	.438 (11.1)	—	P15	D1	31-71063	3

☆ jam nuts and lockwashers sold separately. See figures 4 and 5 page 100 ▲ distributor stocked

Notes



Description

Amphenol 1.6/5.6 coaxial connectors are miniature 75 ohm units with threaded coupling mechanisms which provide positive mating. The compact design of the 1.6/5.6 permits dense connector packing, making these connectors ideally suited to applications where space limitation is a factor.

Application

- Telecommunications
- Switching equipment and routers

Features/Benefits

Amphenol 1.6/5.6 connectors meet IEC 169-13, DIN 47295 and NFC 93-570 international specifications.

1.6/5.6 plugs and bulkhead jacks are available as crimp termination types ensuring high reliability in connector assembly and a lower cost installation method.

1.6/5.6

Specifications	134
Plugs & Receptacles	135

SPECIFICATIONS*

ELECTRICAL

Impedance	75 ohms
Frequency range	0-1GHz
Voltage rating	330 volts peak
Other	Contact resistance: Center contact 4 milliohm Outer contact 2 milliohm Insulation resistance: 10000 megohms

ENVIRONMENTAL

Temperature range	- 40°C to +155°C
Connector Durability	100 matings

MECHANICAL

Mating	M9 x 0.5 threaded coupling
Cable affixment (braid or jacket)	Hex crimp
Cable affixment (center conductor)	Crimp or solder
Captivated contacts	All crimps

MATERIAL

Contacts	Male: Brass Female: (center and outer) Beryllium copper, Gold plated
Other metal parts	Brass, nickel plated
Insulators	Teflon
Crimp ferrule	Copper

* These characteristics are typical and may not apply to all connectors.

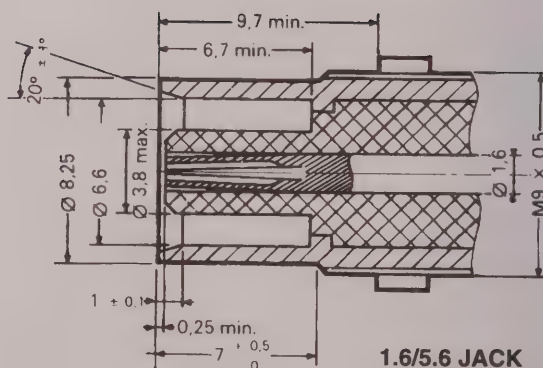
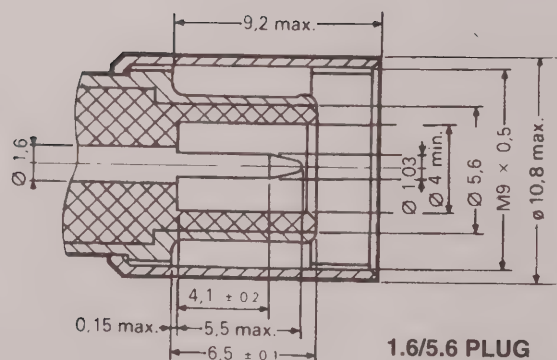
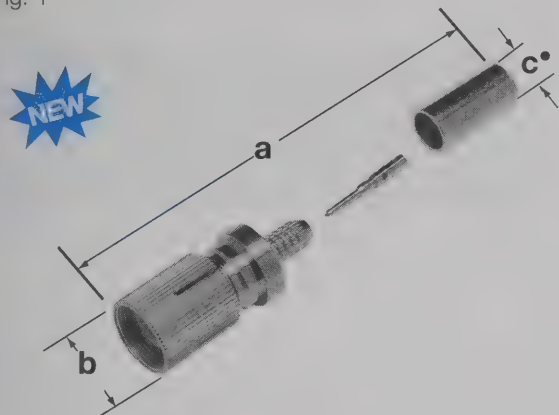
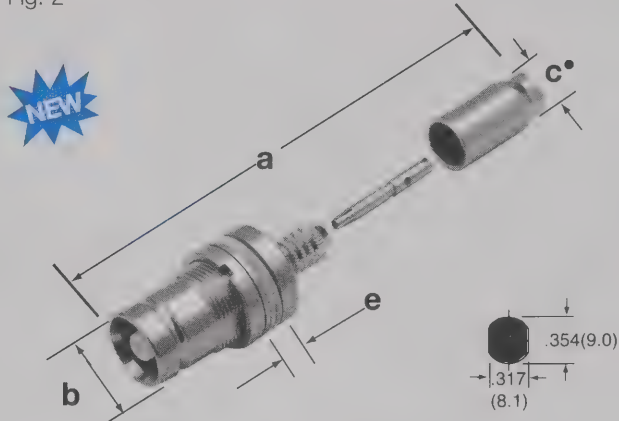


Fig. 1



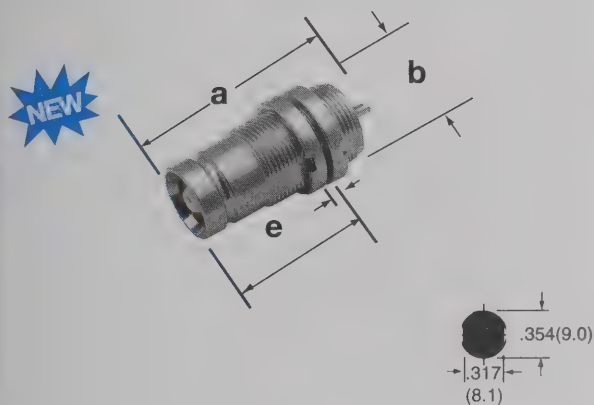
Straight Plugs
156-929-02
156-929-34

Fig. 2



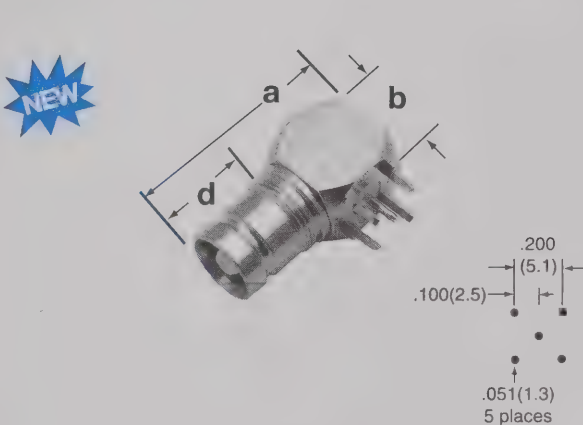
Bulkhead Jacks
156-931-02
156-931-34

Fig. 3



Receptacle
156-343-03

Fig. 4



Printed Circuit Receptacle
156-335-01

1.6/5.6 PLUGS, BULKHEAD JACKS, RECEPTACLES

Connector Description	Cable	Cable Attachment		Dimensions, inches (millimeters)					Amphenol Number	Fig.
		Outer	Inner	a	b	c •	d	e		
Plug	L910/34 BT3002	Crimp	Crimp	1.18 ■ (30.0)	.425 (10.8)	.161 (4.1)	—	—	156-929-34	1
	L910/16	Crimp	Crimp	1.18 ■ (30.0)	.425 (10.8)	.205 (5.2)	—	—	156-929-02	1
Bulkhead Jack	L910/34 BT3002	Crimp	Crimp	1.26 ■ (32.0)	.425 (10.8)	.161 (4.1)	.543 (13.8)	.047 (1.2)	156-931-34	2
	L910/16	Crimp	Crimp	1.26 ■ (32.0)	.425 (10.8)	.205 (5.2)	.543 (13.8)	.047 (1.2)	156-931-02	2
Receptacle	Front Mount or Rear Mount	Solder Cup		.906 (23.0)	.425 (10.8)	—	.630 (16.0)	.138 (3.5)	156-343-03	3
Printed Circuit Receptacle 4 legs & terminal .118 (3.0) long x .039 (1.0) diameter / .039 (1.0) stand off pads		Blunt Post		.827 (21.0)	.433 (11.0)	—	.433 (11.0)	—	156-335-01	4

• accommodates cable diameter ■ includes outer ferrule

Notes

Description

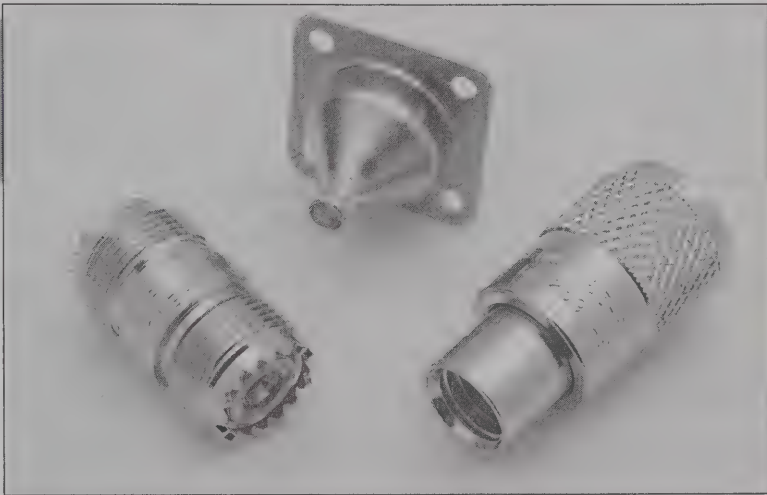
Amphenol UHF coaxial connectors are general purpose units developed for use in low frequency systems applications up to 300MHz.

Applications

- CB Radios
- Antennas
- Public Address Systems

Features/Benefits

With the use of optional reducing adapters, UHF connectors are designed to accommodate a wide range of popular coaxial cables. The solder termination types require no special assembly tools. Crimp termination types, which provide a lower cost installation method, are also available.



UHF

Specifications	138
Plugs, Reducing Adapters	139
Receptacles	140
Adapters/Hoods	141

SPECIFICATIONS*

ELECTRICAL

Impedance	Non-constant
Frequency range	0-300MHz
Voltage rating	500 volts peak

ENVIRONMENTAL

Temperature range	Mica-filled phenolic insulators: - 55°C to + 149°C Copolymer of styrene and polystyrene: - 55°C to + 85°C TFE insulators: - 65°C to + 165°C
Weatherproof	Except as noted, all series UHF are non-weatherproof

MECHANICAL

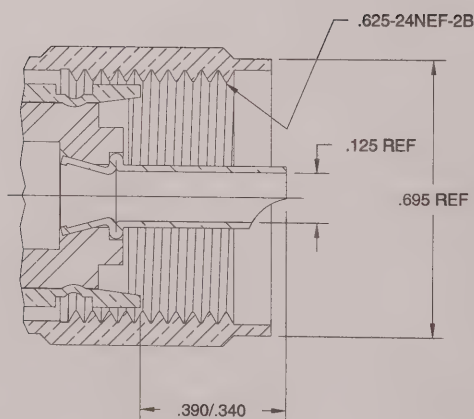
Mating	5/8-24 threaded coupling
Cable affixment	Braid solder, set screw, clamp and crimp

MATERIAL

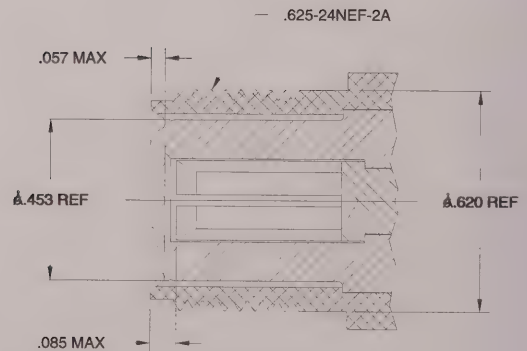
Contacts	Male: brass; silver plated Female: beryllium copper, silver plated
Bodies	Brass and die cast zinc
Other metal parts	Brass
Plating	Nickel and silver
Insulators	TFE, copolymer of styrene, polystyrene, mica-filled phenolic and PBT polyester or equal

* These characteristics are typical and may not apply to all connectors.

UHF PLUG



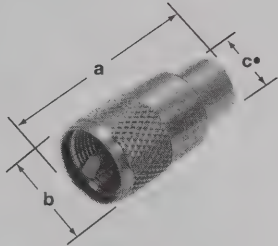
UHF JACK



UHF
Plugs, Reducing Adapters

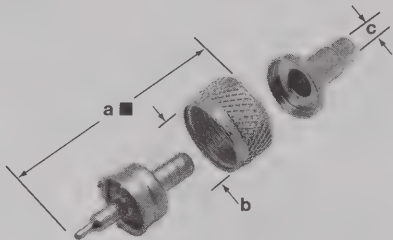
Amphenol®

Fig. 1



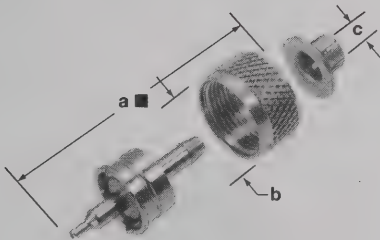
UHF Solder Type Plugs
83-1SP
83-1SP-1050
83-1SP-15RFX
83-822

Fig. 2



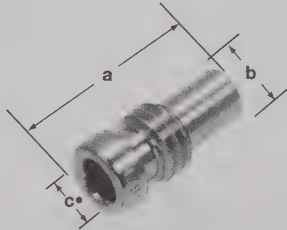
UHF Crimp Type Plugs
83-58DCP-2
83-58SP

Fig. 3



UHF FCP Plugs
83-58FCP
83-58FCP-RFX

Fig. 4



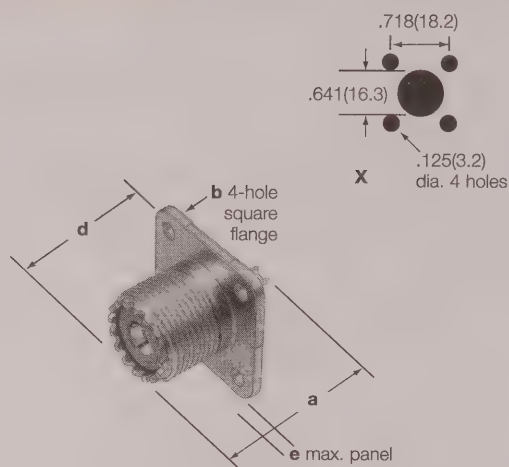
UHF Reducing Adapters
83-185
83-185-RFX
83-168
83-168-RFX

UHF CABLE PLUGS, REDUCING ADAPTERS

Cable RG-/U	Conn Type	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c •	CAI	Plt.	Ins.	Other			
8, 9, 11, 13, 63, 87A, 149, 213, 214, 216, 225	Plug	Solder	Solder	1.50(38.0)	.750(19.0)	.444(11.3)	C1/2	P4	D30	—	PL-259	83-1SP	1 ▲
	Plug	Solder	Solder	1.50(38.0)	.750(19.0)	.444(11.3)	C1/2	P1	D3	IBM 460147	PL-259	83-1SP-1050	1 ▲
	Plug	Solder	Solder	1.50(38.0)	.750(19.0)	.420(10.7)	C1/2	P1	D3	—	—	83-1SP-15RFX	1 ▲
	Plug	Solder	Solder	1.50(38.0)	.750(19.0)	.444(11.3)	C1/2	P1	D1	TFE Insulation	PL-259	83-822	1 ▲
58, 141	Plug	Crimp	Crimp	1.41(35.7)■	.750(19.0)	.245(6.2)	C5	P2	D2	—	—	83-58DCP-2	2 ▲
	Plug	FCP	Pliers	1.06(27.0)■	.750(19.0)	.195(4.9)	C6	P2	D2	No Soldering	—	83-58FCP □	3 ▲
	Plug	FCP	Pliers	1.16(29.4)■	.716(18.2)	.224(5.7)	C6	P7	D24	No Soldering	—	83-58FCP-RFX	3 ▲
	Plug	Crimp	Crimp	1.31(33.3)■	.750(19.0)	.206(5.3)	C4	P1	D30	Solder Contact	—	83-58SP	2 ▲
59, 62,140,210	Plug	Solder	Solder	1.68(42.9)	.781(19.8)	.257(6.6)	C2	P1	D30	—	UG-111/U	83-750	1 ▲
Reducing Adapter For use on RG-55, 58,141,142 Cable (Except 55A)				1.00(25.4)	.438(11.1)	.209(5.3)	C2	P3	—	—	UG-175/U	83-185	4 ▲
				1.00(25.4)	.437(11.1)	.209(5.3)	C2	P3	—	—	—	83-185-RFX	4 ▲
Reducing Adapter For use on RG-59, 62, 71, 140, 210 Cable				1.00(25.4)	.438(11.1)	.257(6.5)	C2	P3	—	—	UG-176/U	83-168	4 ▲
				1.00(25.4)	.437(11.1)	.257(6.5)	C2	P3	—	—	—	83-168-RFX	4 ▲

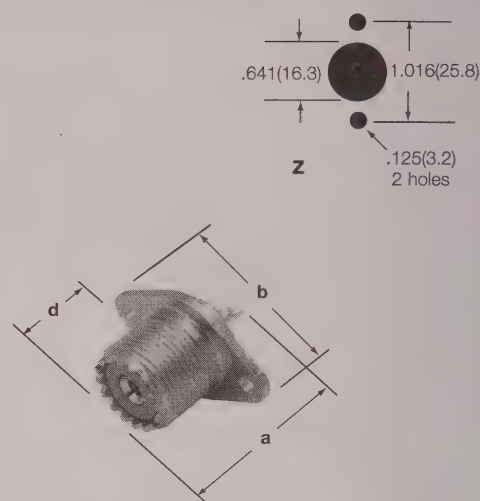
• accommodates cable diameter ▲ distributor stocked ■ includes outer ferrule □ US patent 4,053,200

Fig. 1



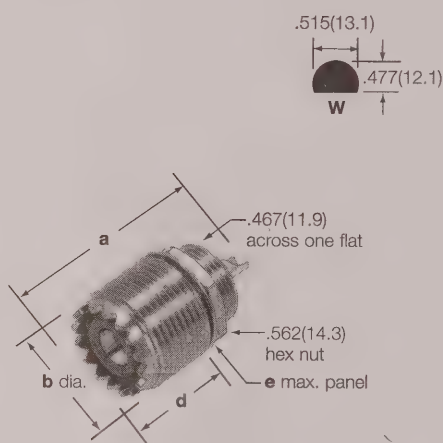
UHF Panel Receptacles
83-1R or 83-1R-RFX
83-798

Fig. 2



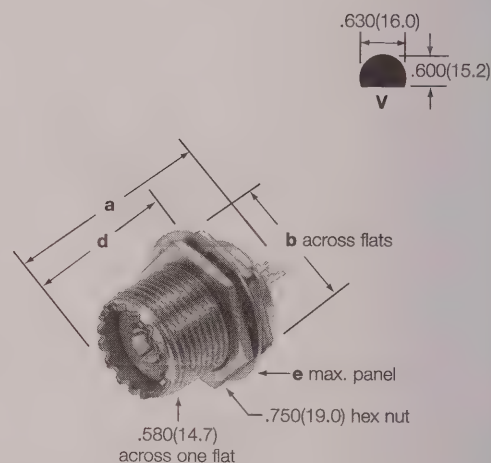
Panel Receptacle,
2 Hole Flange
83-876

Fig. 3



UHF Bulkhead Receptacles
Front Mount
83-875
83-875-1002

Fig. 4



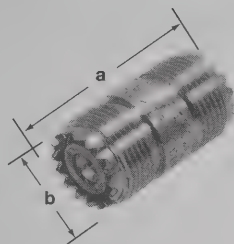
UHF Bulkhead Receptacle
Rear Mount
83-878

UHF PANEL & BULKHEAD RECEPTACLES

Description	Dimensions, inches (millimeters)				Plt.	Ins.	Mtg. Hole	Military Number	Amphenol Number	Fig.
	a	b	d	e						
Panel Receptacle, Solder Cup 4-hole Square Flange	1.05(26.8)	1.00(25.4)	.553(14.0)	.187(4.7) ▼	P1	D2	X	SO-239	83-1R★	1 ▲
	1.06(27.0)	1.00(25.4)	.553(14.0)	.187(4.7) ▼	P1	D25	X	—	83-1R-RFX★	1 ▲
Panel Receptacle	1.05(26.8)	1.00(25.4)	.553(14.0)	.187(4.7) ▼	P1	D1	X	SO-239A	83-798	1 ▲
Panel Receptacle, Oval Flange	1.05(26.8)	1.30(32.9)	.553(14.0)	.187(4.7) ▼	P1	D2	Z	—	83-876	2 ▲
Bulkhead Receptacle Front Mount	1.09(27.8)	.563(14.3)	.500(12.7)	.156(4.0)	P1	D1/D6	W	—	83-875	3 ▲
Front Mount Bulkhead Type; Solder Cup Term.	1.09(27.8)	.563(14.3)	.500(12.7)	.156(4.0)	P1	D1	W	—	83-875-1002	3 ▲
Rear Mount Bulkhead Type; Solder Cup Term.	1.06(27.0)	.750(19.1)	.730(18.5)	.187(4.7)	P1	D2	V	—	83-878	4 ▲

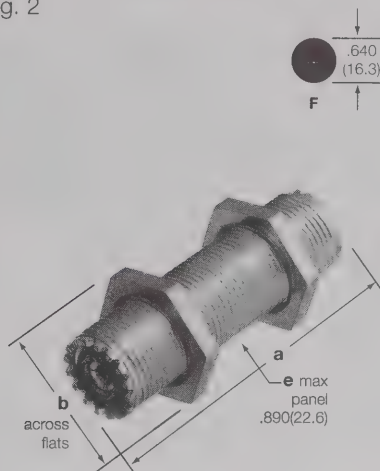
★ IBM 317228 ▼ max. panel when rear mounted thru panel ▲ Distributor stocked

Fig. 1



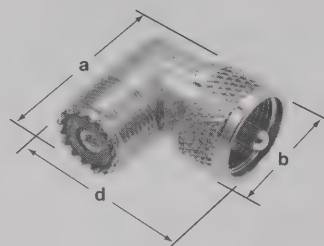
UHF Adapter, Jack-Jack
83-1J

Fig. 2



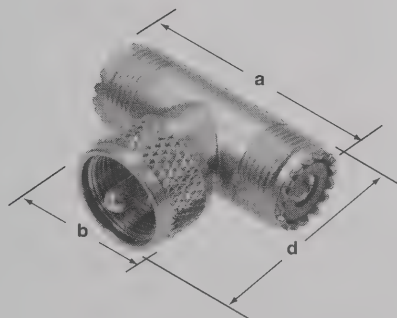
UHF Bulkhead Adapter
Jack-Jack
83-1F

Fig. 3



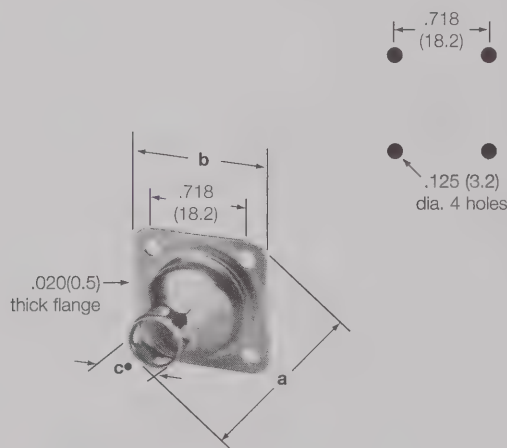
UHF Angle Adapter
Jack-Plug
83-1AP

Fig. 4



UHF Tee Adapter
Jack-Plug-Jack
83-1T

Fig. 5



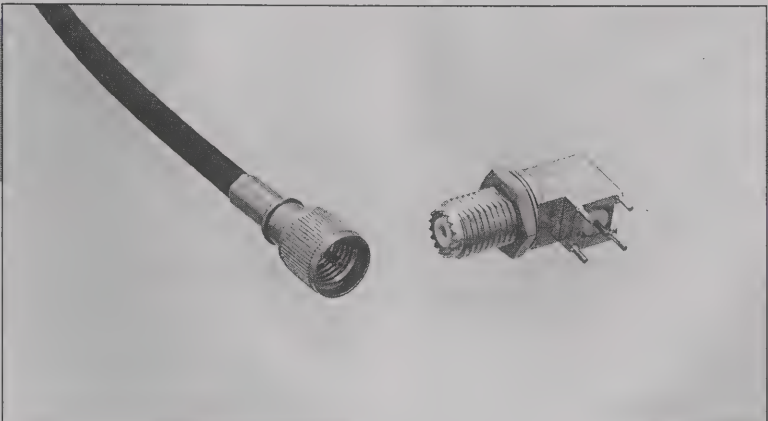
UHF Hoods
83-1H
83-765

UHF IN-SERIES ADAPTERS, HOODS

Description	Dimensions, inches (millimeters)				CAI	Plt.	Ins.	MTG Hole	Military Number	Amphenol Number	Fig.
	a	b	c •	d							
Straight Adapter/Jack-Jack	1.12(28.6)	.625(15.9)	—	—	—	P1	D5	—	PL-258	83-1J	1
Bulkhead Adapter/Jack-Jack	2.00(50.8)	.625(15.9)	—	—	—	P1	D5	F	UG-363/U	83-1F	2
Angle Adapter/Jack-Plug	1.28(32.5)	.750(19.1)	—	1.19(30.2)	—	P1	D5	—	UG-646/U	83-1AP	3
Tee Adapter/Jack-Plug-Jack	1.63(41.3)	.750(19.1)	—	1.20(30.6)	—	P1	D5	—	M-358	83-1T	4
Hood/4-hole flange mount/Adapts Panel Receptacle 83-1R to RG-8,10,11,12,63,79,115,149,213,215	.750(19.1)	1.00(25.4)	.345(8.8)	—	C7	P3	—	—	UG-106/U	83-1H	5
Hood/4-hole flange mount/Adapts Panel Receptacle 83-1R to RG-58,141 cables	.750(19.1)	1.00(25.4)	.155(3.9)	—	C7	P3	—	—	UG-177/U	83-765	5

• accommodates cable diameter ▲ distributor stocked

Notes



Description

Amphenol miniature UHF connectors are designed for use as coaxial interconnections in cellular mobile telephone systems and similar applications where size, weight and cost factors are critical. These connectors will terminate RG-58, -58A, -58B, -58C, and Belden 9258 cables. Crimp-type cable plugs and jacks are available as well as panel and printed circuit board receptacles.

Applications

- Cellular mobile telephone.
- Low cost local area networks.
- Telecommunications

Features/Benefits

These miniature 3/8-24 thread size UHF connectors provide excellent RF performance for applications up to 2.5 GHz. This compares to the limit of 300 MHz for the standard 5/8-24 thread size UHF connectors normally associated with CB applications.

Combining excellent electrical characteristics, small size and light weight, mini-UHF connectors feature crimp-type cable termination providing low installation cost.

Mini-UHF

Specifications	144
Plugs, Jacks & Receptacles	145

Mini-UHF

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	0-2.5 GHz
Voltage rating	335 volts at sea level
Dielectric withstanding voltage	1,000 volts rms.
VSWR	1.25 max., 0-2.5 GHz
Insulation resistance	5,000 megohms min.

ENVIRONMENTAL

Temperature range	- 55°C to + 85°C
Shock	Per MIL-Std. 202
Vibration	Per MIL-Std. 202
Thermal shock	Per MIL-Std. 202
Salt spray	Per MIL-Std. 202

MATERIAL

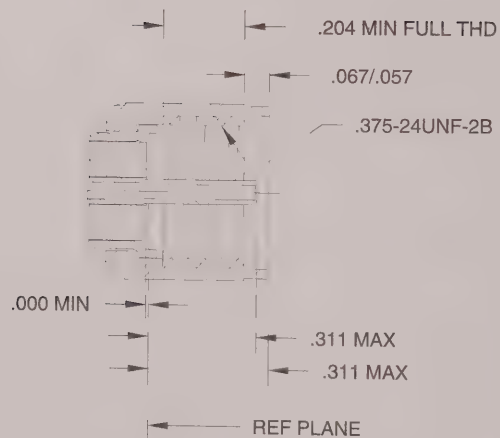
Plug coupling nuts and jack bodies	Brass or zinc alloy
Other metal parts	Brass
Insulator	Polypropylene
Plating	Contacts - Tin lead Other metal parts - Nickel

MECHANICAL

Mating	3/8-24 threaded coupling
Cable affixment (braid)	Crimp
Cable affixment (center conductor)	Crimp
Cable retention	40 lb. min.

* These characteristics are typical and may not apply to all connectors.

MINI-UHF PLUG



MINI-UHF JACK

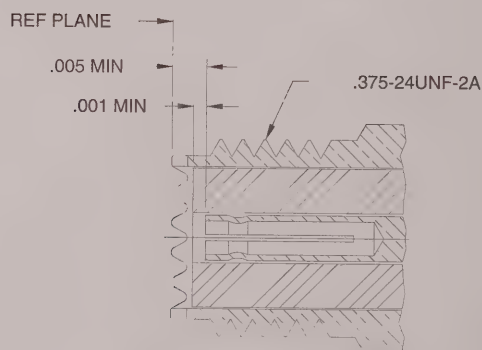
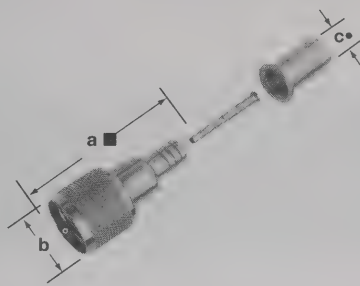
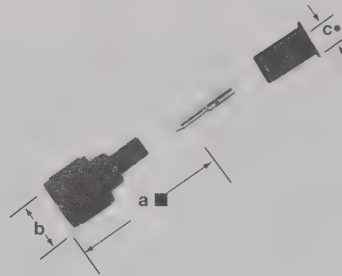


Fig. 1



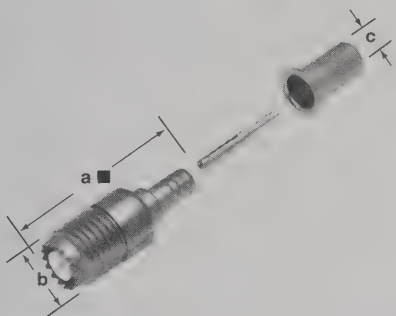
Crimp Type Plugs with bright nickel finish
81-115N-1000
81-114

Fig. 2



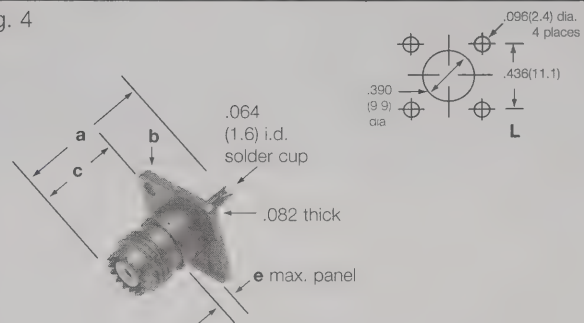
Crimp Type Plug with black chromate finish
81-115BK-1000

Fig. 3



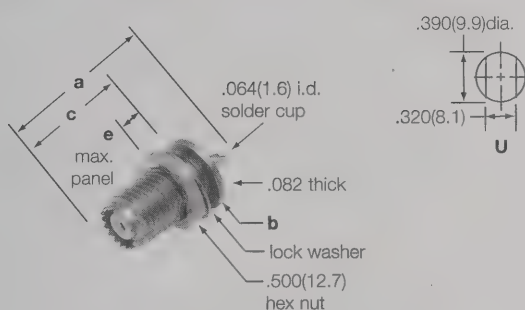
Crimp Type Jack
81-116

Fig. 4



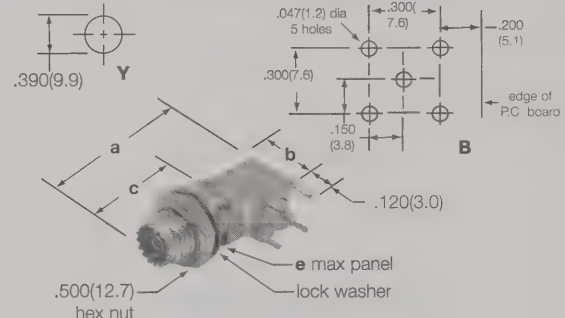
Panel Receptacle (J)
81-118-1001

Fig. 5



Bulkhead Receptacle (J)
81-120

Fig. 6



PCB Angle Bulkhead Receptacle (J)
81-119-1007

MINI UHF PLUGS & JACKS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions Inches (mm)			CAI	Plt.	Ins.	Amphenol Number	Fig.
		Outer	Inner	a	b	c •					
58	Plug	Crimp	Crimp	1.14(28.9) ■	.447(11.3)	.206(5.2)	C39	P15	D9	81-115N-1000	1 ▲
	Plug	Crimp	Crimp	1.14(28.9) ■	.447(11.3)	.206(5.2)	C39	P35	D9	81-115BK-1000	2 ▲
	Jack	Crimp	Crimp	1.17(29.7) ■	.375(8.50)	.206(5.2)	C39	P5	D14	81-116	3 ▲
Belden 9258	Plug	Crimp	Crimp	1.21(30.7) ■	.447(11.3)	.256(6.5)	C39	P5	D14	81-114	1

MINI UHF ADAPTERS & RECEPTACLES

Connector Type	Dimensions Inches (mm)				CAI	Plt.	Ins.	MTG Hole	Amphenol Number	Fig.
	a	b	c	e						
Panel Receptacle (J)	.925(23.5)	.625(15.9) sq	.487(12.4)	.187(4.7) ▼	—	P5	D14	L	81-118-1001	4
Bulkhead Receptacle (J)	.901(22.9)	.500(12.7) dia	.630(16.0)	.125(3.2)	—	P5	D14	U	81-120	5
PCB Angle Bulkhead Receptacle (J)	1.13(28.8)	.598(15.2)	.575(14.6)	.125(3.2)	—	P36	D1/26	Y/B	81-119-1007	6

• accommodates cable diameter ▲ distributor stocked ▼ max. panel when rear mounted thru panel ■ includes outer ferrule

Notes

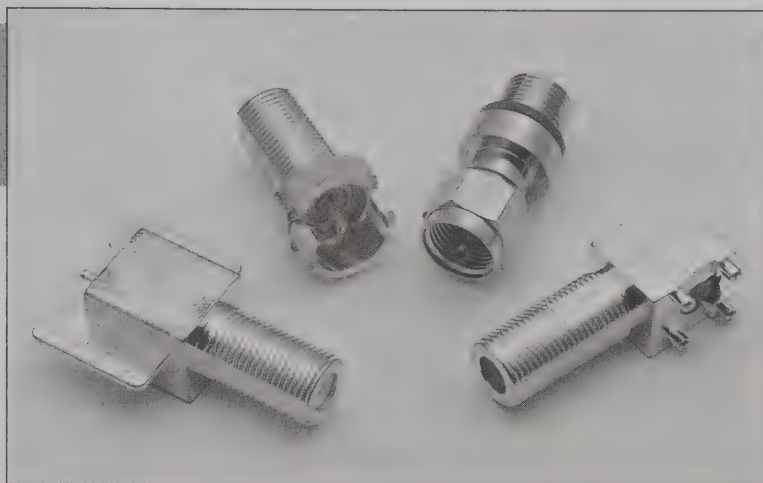
Description

Type F coaxial receptacles were introduced over 25 years ago in CATV equipment to interface with 59 series drop cable connectors. These original designs incorporated "blade" female contacts that have the mechanical ability of accepting .022 through .042 in. diameter male conductors. However, the average frequency range of these connectors is 250 MHz with a return loss of 15-18 dB maximum.

With the deployment of 750 MHz Hybrid Fiber Coax (HFC) networks, it became increasingly obvious that existing low performance F receptacles could not be used in high speed cable modems and customer interface units (CIUs). The industry has challenged connector manufacturers to develop high performance connectors featuring -30 dB return loss at 1 GHz. Additionally, these high performance connectors must still accept .022-.042 in. diameter conductors.

Working with industry leaders, Amphenol has accepted the challenge by developing a variety of board level F receptacles for use on high speed modems and CIUs. These connectors utilize Amphenol's unique female contact design featuring a true cylindrical phosphorous bronze coaxial contact. As a result, superior RF performance and excellent insertion/withdrawal characteristics for .022-.042 in. diameter center conductors are achieved. F receptacles are available in multiple styles including straight and right angle PCB mount as well as SMD versions.

All connectors comply with the 3/8-24 UNEF Thread Specification and the MIL-Std. 202 Specification for vibration, shock, thermal shock, moisture resistance and salt spray.



Type F Receptacles

Specifications	148
Receptacles	149

Type F Adapters

Specifications	150
Adapters	151

Drop F Connectors

Specifications	153
Connectors	154
Connectors with Pin Contacts	155

SCTE Type F Specifications	156
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Applications

- High Speed Modems
- CIMS
- Hybrid Fiber Coax (HFC) Networks
- CATV

Features/Benefits

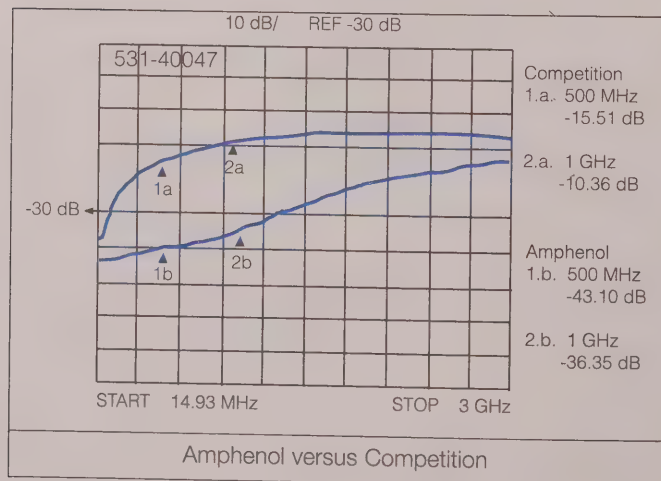
- Patent pending contact design provides a truly cylindrical coaxial contact.
- 30 dB return loss to 1 GHz.
- Multiple PCB mount packages: SMD, edge mount, right angle and straight.
- Accommodate .022-.042 in. center conductor sizes.

SPECIFICATIONS

Impedance: 75 ohms

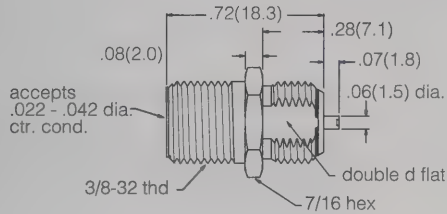
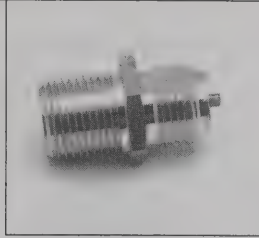
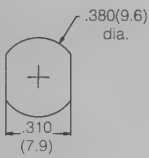
RF Leakage: -100 dB min. @ 1 GHz

Temperature Range: -40°F to +140°F
(-40°C to +60°C)



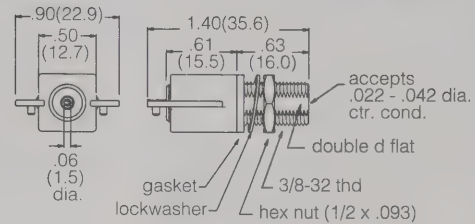
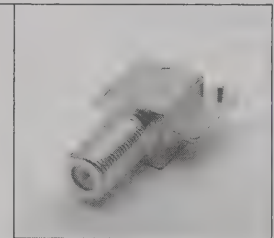
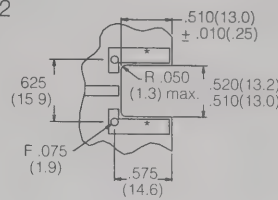
Amphenol Number	Frequency Range	Return Loss
531-40001	0-1 GHz 1-3 GHz	30 dB minimum 15 dB minimum
531-40035	0-1 GHz 1-3 GHz	25 dB minimum 10 dB minimum
531-40039	0-1 GHz 1-3 GHz	30 dB minimum 15 dB minimum
531-40046	0-1 GHz 1-3 GHz	30 dB minimum 15 dB minimum
531-40047	0-1 GHz 1-3 GHz	30 dB minimum 15 dB minimum

Fig. 1



Type F Receptacle, Jack
531-40001

Fig. 2



Type F Receptacle
SMD Package, PCB Mount
531-40035

Fig. 3

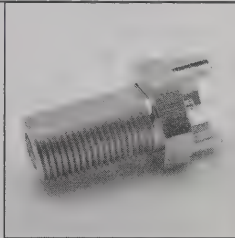
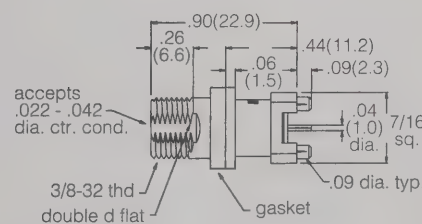
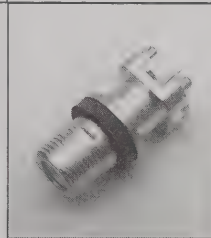
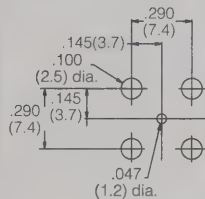
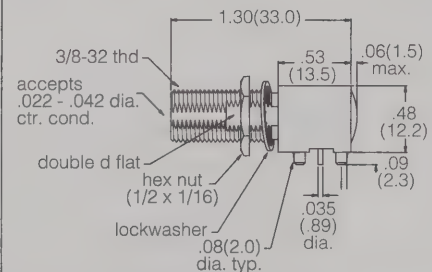
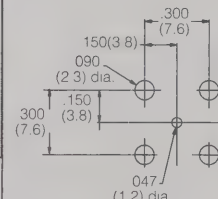


Fig. 4



Type F Receptacle
Four Hole PCB Mount
531-40046

Fig. 5



Type F Receptacle
Right Angle PCB Mount
531-40047

Amphenol Number	Materials			Terminal Type	Fig.
	Body (plating)	Contact (plating)	Insulator		
531-40001	brass (tin lead)	phosphor bronze (tin lead)	PTFE	Flat Tab	1
531-40035	zinc die cast (tin lead)	beryllium copper (tin lead)	Polypropylene	Flat Tab	2
531-40039	brass (tin lead)	phosphor bronze (tin lead)	PTFE	Round	3
531-40046	zinc die cast (tin lead)	phosphor bronze (tin lead)	Polypropylene	Round	4
531-40047	zinc die cast (tin lead)	phosphor bronze (tin lead)	Polypropylene	Round	5

Description

Amphenol offers an assortment of Type F and G coaxial adapters designed to meet application specific needs of equipment designers.

With the deployment of 750 MHz Hybrid Fiber Coax (HFC) networks, it became increasingly obvious that existing low performance adapters and receptacles could not be used in the new high performance equipment. A need for high performance connectors featuring -30 dB at 1 GHz and -20 dB at 3 GHz became a reality. Additionally, these high performance connectors must still accept .022-.042 in. diameter conductors.

Working with industry leaders, Amphenol has developed a variety of F and G adapters for use on high performance equipment. These connectors utilize Amphenol's unique patented female contact design featuring a true cylindrical phosphorous bronze coaxial contact. As a result, superior RF performance and excellent insertion/withdrawal characteristics for .022-.042 in. diameter center conductors are achieved.

The F and G adapters are available in multiple styles including straight and right angle PCB mount as well as SMD versions.

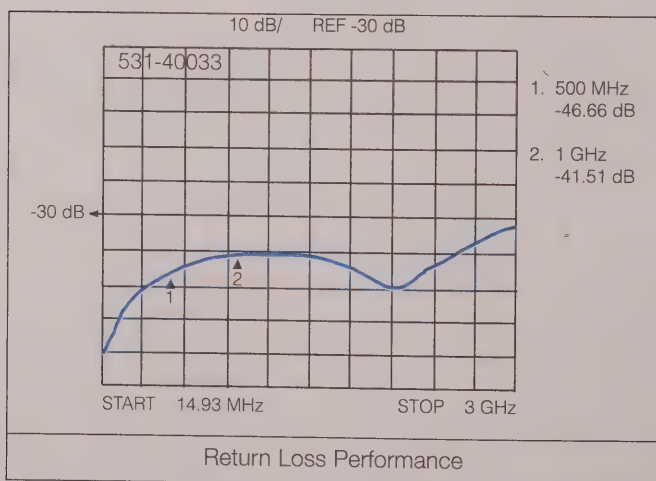
All connectors comply with the 3/8-24 UNEF Thread Specification and the MIL-Std. 202 Specification for vibration, shock, thermal shock, moisture resistance and salt spray.

Features/Benefits

- Patent pending contact design provides a truly cylindrical coaxial contact.
- 30 dB return loss to 3 GHz.
- Accommodate .022-.042 in. center conductor sizes.

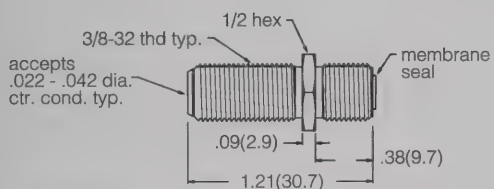
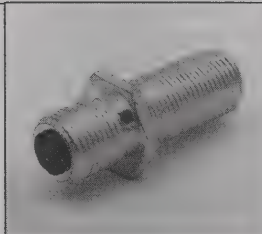
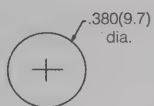
SPECIFICATIONS

Impedance: 75 ohms
 RF Leakage: -100 dB min. @ 1 GHz
 Temperature Range: -40°F to -140°F
 (-40°C to +60°C)



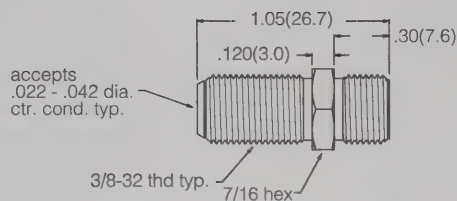
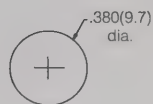
Amphenol Number	Frequency Range	Return Loss
531-40008	0-3 GHz	30 dB minimum
531-40033	0-3 GHz	36 dB minimum
531-40010	0-3 GHz	30 dB minimum
531-40009	0-3 GHz	36 dB minimum

Fig. 1



Type F to Type F Adapter
with Membrane Seal
531-40008

Fig. 2



Type F to Type F Adapter
531-40033

Amphenol Number	Materials			Terminal Type	Fig.
	Body (plating)	Contact (plating)	Insulator		
531-40008	brass (tin plate)	phosphor bronze (Astroplate®)	PTFE	N/A	1
531-40033	brass (tin lead)	phosphor bronze (tin lead)	PTFE	N/A	2

Notes

Description

Amphenol offers standard and weatherproof F connectors for regular and quadshield versions of all popular cable types. The weatherproof connectors available today are expensive and require special boots, tools and installation methods. The lower cost weather-resistant alternatives utilize silicon gel as the water barrier and fail to pass the SCTE water immersion test. Amphenol meets the industry's needs by providing a cost-effective weatherproof connector which meets SCTE's stringent water immersion test.

Background

The standard hexagonal crimp F connector has been the staple product used in cable drop applications for years. The basic design has changed very little over its 40 year existence. In the 1990s, the introduction of weatherproof drop fittings made their mark by promising reduced system maintenance and service calls, resulting in better customer service. These connectors also provided better shielding properties to prevent signal leakage, which is regulated by the FCC. A less reliable alternative to the weatherproof connector is the weather resistant connector. These connectors use standard hex crimp tools but fill the connectors with silicone gel as a water barrier. These connectors do not pass the SCTE immersion test

but do offer more protection than a standard connector. These connectors were roughly two times the cost of traditional F fittings.

Amphenol's Weatherseal connector uses a round crimp to seal the cable/connector interface and two O-rings to seal the nut/collar and port interfaces. The round crimp prevents water migration at the cable/connector interface. The crimp is achieved using standard round crimp tools. These tools can be purchased from Amphenol, major CATV distributors or direct from the tool manufacturer. The nut and port interface are sealed using two polyethylene O-rings. No additional boots, grease, nuts or heat shrink is necessary, thus eliminating the need for specialized installation procedures. With Amphenol's drop connectors, all the installer needs to do is prepare the cable, push the connector on, and crimp for a reliable weatherproof connection.

Features/Benefits

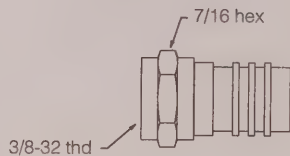
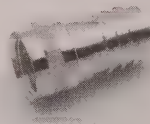
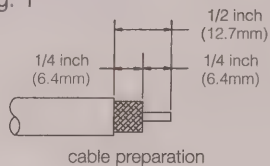
- Excellent cable retention - 40 lb. minimum pull-off force.
- Designed and manufactured to meet or exceed BELLCORE (TA-NWT-001503) and SCTE specifications. Meets SCTE water immersion test.
- Economic alternative to compression type designs. Inexpensive installation tooling.
- Available for all popular drop cable types: RG 59, 6, 7 and 11 series.
- One piece - for easy, low cost installation.
- Weatherproof - both at cable attachment and at mating face - no additional sleeves or sealing compounds needed - mating face seal built in.

SPECIFICATIONS

Impedance:	75 ohms
Frequency Range:	DC - 3 GHz
RF Leakage:	-100 dB min. @ 1 GHz
Temperature Range:	-40°F to -140°F (-40°C to +60°C)
Weatherproof:	At cable attachment and at mating face, with built in mating face seal
Coupling Nuts and Bodies:	Brass

Plating:	Crimp ring: Nickel Coupling nuts: ASTROPLATE®
Mating:	3/8-32 threaded coupling
Mating Torque:	20 in.-lb. recommended
Cable Attachment:	Radial braid-crimp
Cable Retention:	40 lb. min.

Fig. 1



Standard F Feedthru

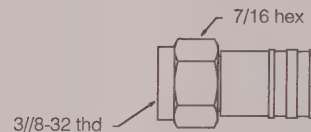
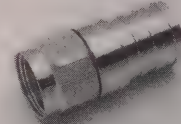
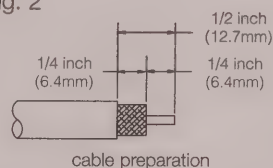
531-F59R

531-F6R

531-F59Q

531-F6Q

Fig. 2

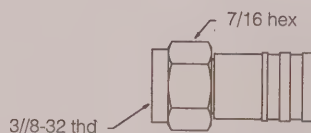
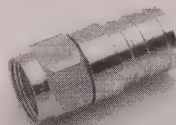
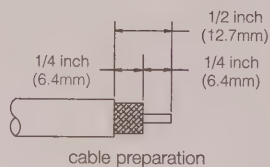


Weatherseal F Feedthru

531-WF59R

531-WF59Q

Fig. 3

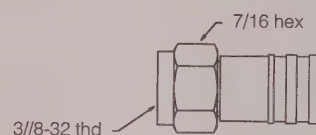
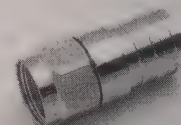
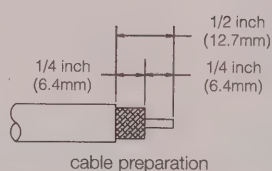


Weatherseal F Feedthru

531-WF6R

531-WF6Q

Fig. 4



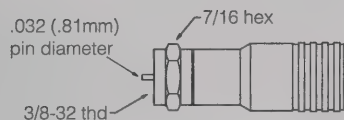
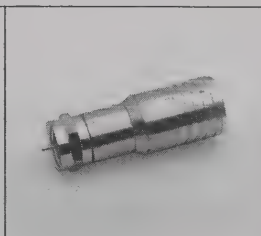
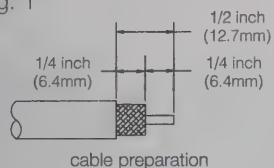
Weatherseal F Feedthru

531-WF7R

531-WF7Q

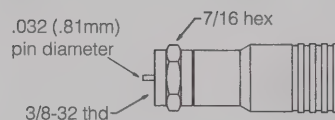
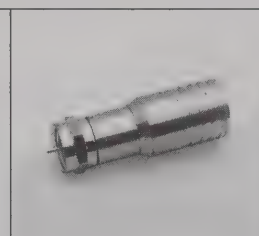
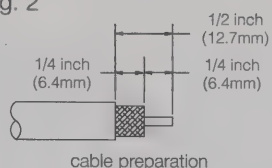
Amphenol Number	Connector Description	Cable Type	Plating	Crimp Tool	Fig
531-F59R 531-F59Q 531-F6R 531-F6Q	Standard male CATV-F connector with weatherproof braid-crimp cable attachment	59 Series CATV coaxial cables 6 Series CATV coaxial cables	Astroplate® Astroplate®	CR-596QL (.324 hex) CR-596QL (.360 hex)	1
531-WF59R 531-WF59Q	Male CATV-F connector with weatherproof braid - crimp cable attachment	59 Series CATV coaxial cables	Astroplate®	531-CR596R	2
531-WF6R 531-WF6Q	Male CATV-F connector with weatherproof braid - crimp cable attachment	6 Series CATV coaxial cables	Astroplate®	531-CR596R	3
531-WF7R 531-WF7Q	Male CATV-F connector with weatherproof braid - crimp cable attachment	7 Series CATV coaxial cables	Astroplate®	531-CR711R	4

Fig. 1



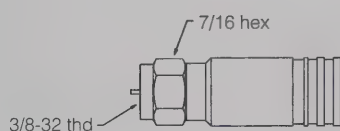
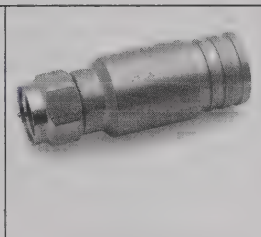
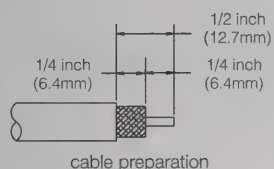
Standard F Pin
531-F7RP
531-F7QP

Fig. 2



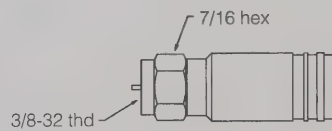
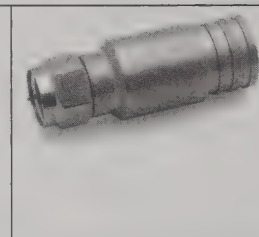
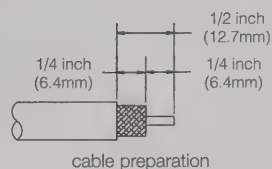
Standard F Pin
531-F11RP
531-F11QP

Fig. 3



Weatherseal F Pin
531-WF7RP
531-WF7QP

Fig. 4



Weatherseal F Pin
531-WF11RP
531-WF11QP

Amphenol Number	Connector Description	Cable Type	Plating	Crimp Tool	Fig
531-F7RP 531-F7QP	Male CATV-F pin connector with weatherproof braid - crimp cable attachment	7 Series CATV coaxial cables	Astroplate®	531-CR7 (.410 hex)	1
531-F11RP 531-F11QP	Male CATV-F pin connector with weatherproof braid - crimp cable attachment	11 Series CATV coaxial cables	Astroplate®	531-CR11 (.475 hex)	2
531-WF7RP 531-WF7QP	Male CATV-F pin connector with weatherproof braid - crimp cable attachment	7 Series CATV coaxial cables	Astroplate®	531-CR711R	3
531-WF11RP 531-WF11QP	Male CATV-F pin connector with weatherproof braid - crimp cable attachment	11 Series CATV coaxial cables	Astroplate®	531-CR711R	4

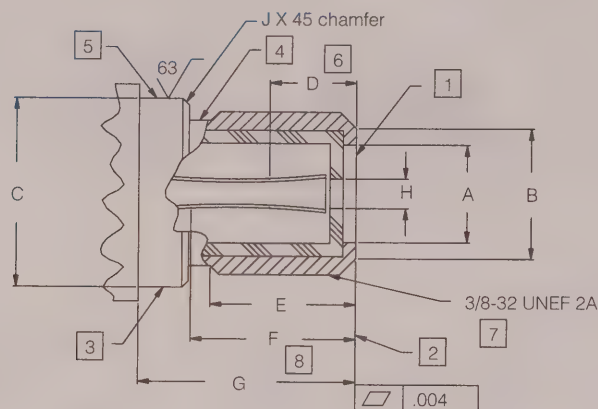
Drop F Connectors

SCTE Type F Specifications

Amphenol®

IPS-SP-400

Recommended "F" Port



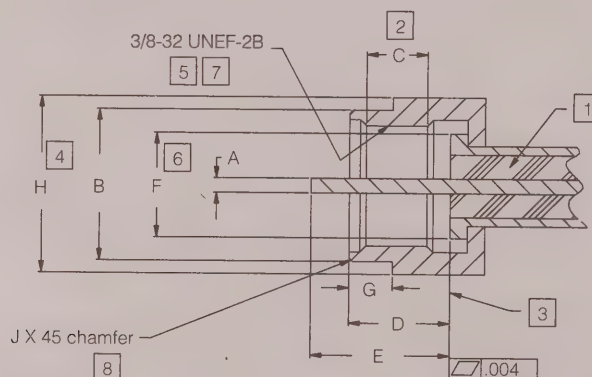
Description	DIM	mm		in		Notes
		min	max	min	max	
Face opening inner diameter	A	4.32	6.10	.170	.240	
Face outer diameter	B	7.11	8.00	.280	.315	
Base outer diameter	C	9.40	11.05	.370	.435	
Center conductor contact to face length	D	—	5.08	—	.200	6
Port threaded length	E	8.26	8.89	.325	.350	
Center contact depth	F	9.65	—	.380	—	8
Sealing surface to face length	G	12.07	13.21	.475	.520	
Center conductor guide inner diameter	H	—	1.73	—	.068	
Chamfer break	J	0.25	0.76	.010	.030	

NOTES:

1. Dielectric must not protrude beyond reference plane after installation
2. Reference plane after installation on standard port tightened to 30 inch lbs and removed
3. No castin glines permitted
4. Thread relief not to exceed 1 full thread
5. Finish required for port seal ring
6. Dimension to point of positive contact of terminal
7. ANSI specification B1.1 (major dia 0.368/0.374)
8. Limit of clearance for maximum center conductor
9. Recommended center conductor 0.0513 in maximum

IPS-SP-401

Recommended "F" Plug



Description	DIM	mm		in		Notes
		min	max	min	max	
Cable center conductor diameter	A	0.56	1.07	.022	.042	
Nut outer diameter	B	10.41	11.05	.410	.435	
Nut threaded length	C	—	—	—	—	2
Mandrel face depth to nut leading edge	D	4.45	6.10	.175	.240	
Center conductor to mandrel face length	E	6.35	9.53	.250	.375	
Mandrel face outer diameter	F	7.11	—	.280	—	6
Nut to dealing sleeve interface length	G	1.78	4.45	.070	.175	
Maximum envelope dimension	H	—	12.90	—	.508	4
Chamfer break	J	—	0.25	—	.010	8

NOTES:

1. Dielectric must not protrude beyond reference plane
2. Minimum 4 threads
3. Reference plane after installation on standard port, tightened to 30 inch pounds and removed
4. Maximum envelope dimension
5. Maximum 1 thread lead-in
6. Minimum diameter of reference plane
7. ANSI specification B1.1
8. Radius optional
9. Connectors must withstand a minimum torque of 60 inch pounds without damage per IPS-TP-400

Description

Amphenol has developed a range of high performance Type G receptacles for use in today's 1 GHz amplifier and fiber optic node equipment designs.

Amphenol has also developed a series of 15 Amp G receptacles for use in the new generation of amplifier and fiber optic node equipment for HFC networks. These connectors operate at 15 Amps continuous and up to 25 Amps for two hours. With the deregulation of telecommunication industries, the 15 Amp current capability is required to power loop electronics in support of enhanced telephony/data services carried on the HFC networks being implemented by CATV MSOs and telcos.

All connectors comply with the 3/8-24 UNEF Thread Specification and the MIL-Std. 202 Specification for vibration, shock, thermal shock, moisture resistance and salt spray.

Features/Benefits

- 15 Amp continuous current capability available.
- Patent pending contact design provides a truly cylindrical coaxial contact.
- 30 dB return loss to 1 GHz with 10 Amp current capability design. 20 dB return loss with 15 Amp version.
- Accommodates .022-.042 in. center conductor sizes producing low insertion & high withdrawal forces.



Applications

- Amplifiers
- Hybrid Fiber Coax (HFC) Networks
- Fiber Optic Node Equipment
- Telecommunications
- CATV MSOs

Type G

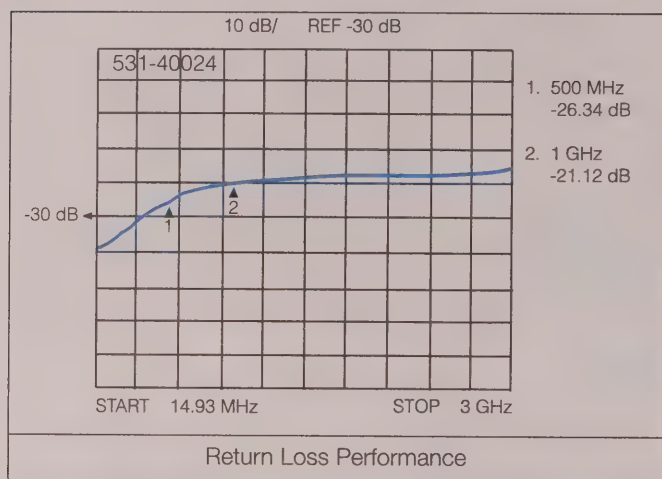
Specifications	158
Receptacles	159

SPECIFICATIONS

Impedance: 75 ohms

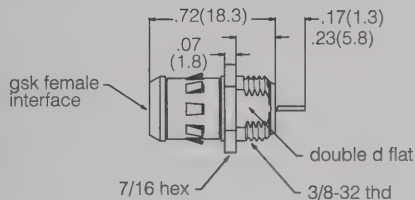
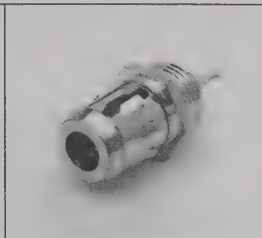
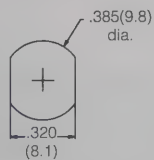
RF Leakage: -100 dB min. @ 1 GHz

Temperature Range: -40°F to -140°F
(-40°C to +60°C)



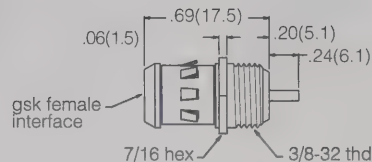
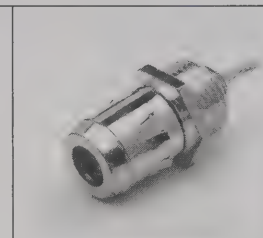
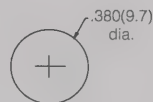
Amphenol Number	Frequency Range	Return Loss
531-40011	0-1 GHz 1-3 GHz	30 dB minimum 15 dB minimum
531-40017	0-1 GHz	12 dB minimum
531-40024	0-1 GHz 1-2 GHz	20 dB minimum 10 dB minimum
531-40051	0-1 GHz 1-2 GHz	20 dB minimum 10 dB minimum

Fig. 1



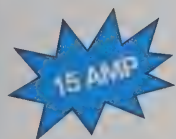
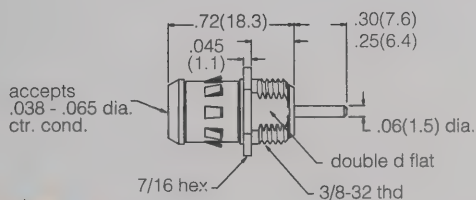
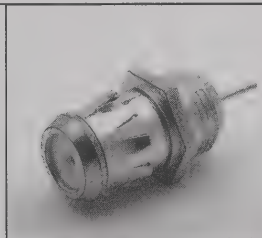
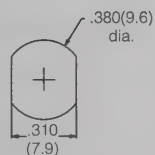
Type G Receptacle, Jack
531-40011

Fig. 2



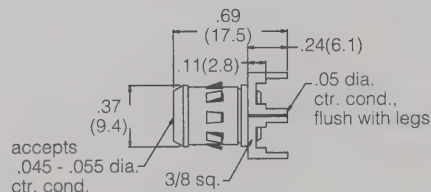
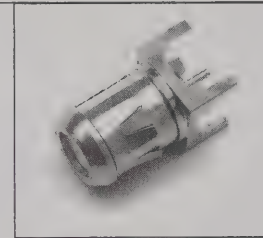
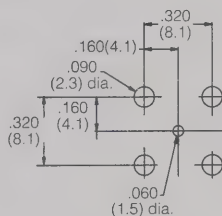
Type G Receptacle, Jack
531-40017

Fig. 3



Type G Receptacle
531-40024

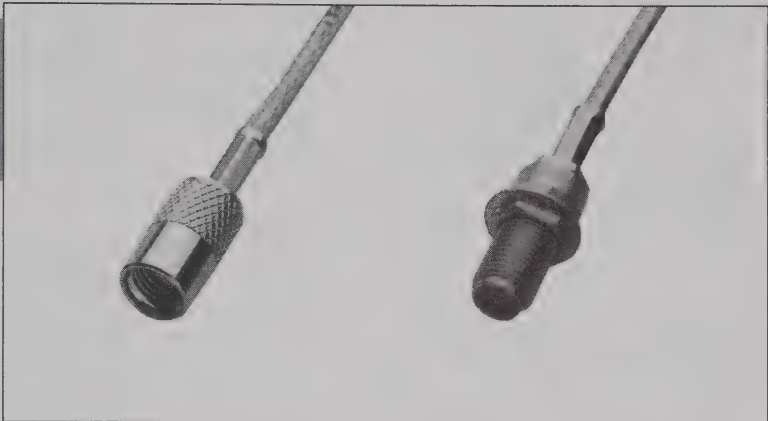
Fig. 4



Type G Receptacle
Four Hole PCB Mount
531-40051

Amphenol Number	Materials			Terminal Type	Fig.
	Body (plating)	Contact (plating)	Insulator		
531-40011	brass (tin lead)	phosphor bronze (tin lead)	Polypropylene	Flat Tab	1
531-40017	brass (tin lead)	phosphor bronze (tin lead)	Polypropylene	Flat Tab	2
531-40024	brass (tin plate)	phosphor bronze (silver)	PTFE	Round	3
531-40051	brass (tin plate)	phosphor bronze (gold over nickel)	PTFE	Round	4

Notes



Description

Amphenol reverse polarity BNC, TNC & SMA connectors (RP-BNCTM, RP-TNCTM, RP-SMATM) are designed for use in wireless applications where a non-standard interface has been mandated by the FCC.

Application

- Spread Spectrum Wireless Devices

Features/Benefits

These connectors may also be used in applications where keying is a necessity. The RP-BNCs, RP-TNCs & RP-SMAs meet the same high quality requirements as standard Amphenol BNCs, TNCs & SMAs. They provide excellent performance DC to 4 GHz for RP-BNCs, DC to 4 GHz for RP-TNCs and DC-18 GHz for RP-SMAs.

RP-SMA Connectors

Specifications	162
Connectors	163-164

RP-BNC & RP-TNC

Specifications	165-166
TNC Connectors	166-167
BNC Connectors	168

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	Semi-rigid 0-18 GHz.
	Flexible cables 0-12.4 GHz
Voltage rating	375 volts peak
Dielectric withstanding voltage	1,000 volts rms.
VSWR straight connectors	On .141" S/R: 1.05 + .005 f (GHz) On RG-174: 1.20 + .025 f (GHz)
Insertion loss	.03 \sqrt{f} (GHz) dB max.
Insulation resistance	5,000 megohms
RF leakage	-60 dB min.

* These characteristics are typical and may not apply to all connectors.

MECHANICAL

Mating	.250-36 threaded coupling
Cable affixment	Crimp or solder types
Center conductor	Solder
Cable retention	60 to 80 lbs. depending on cable

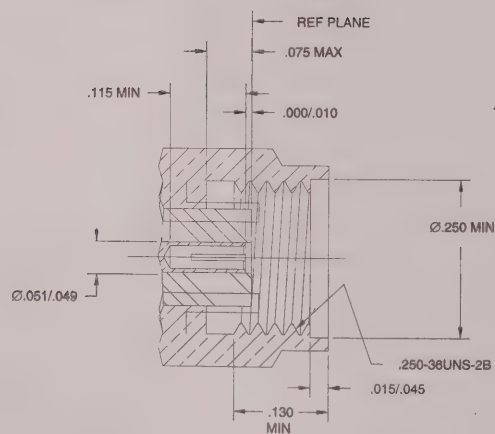
MATERIAL

Center contacts	Beryllium copper, gold plated
Crimp ferrule	Copper tubing
Other metal parts	Non-magnetic passivated stainless steel or brass, gold or silver plated.
Insulators	TFE
Gaskets	Silicone rubber

ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Moisture Resistant	MIL-STD 202 method 106 (test condition B)
Corrosion	MIL-STD-202 method 101 (test cond. B)
Vibration	MIL-STD-202 method 204 (test cond. B)

PLUG



JACK

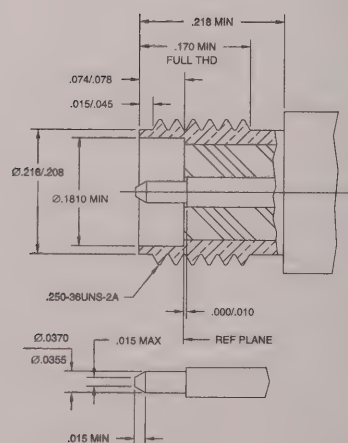
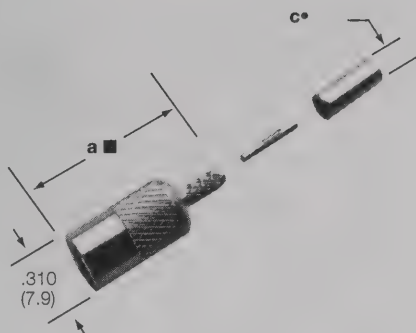
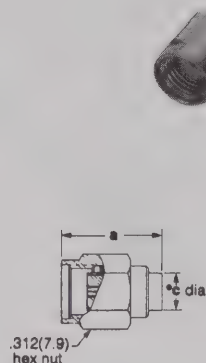


Fig. 1



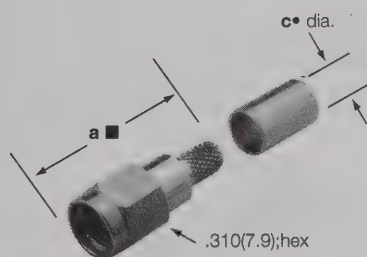
RP-SMA Plug
901-9852

Fig. 2



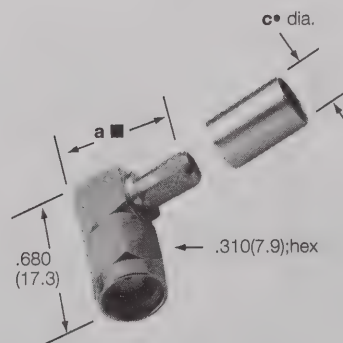
RP-SMA Plug
901-9866

Fig. 3



RP-SMA Plug
901-9884

Fig. 4



RP-SMA Angle Plug
901-9908

RP-SMA PLUGS, BULKHEAD JACKS & PCB RECEPTACLES

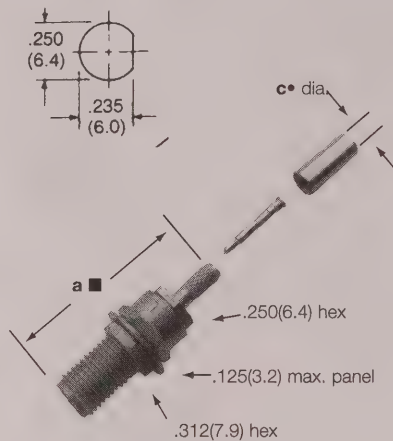
Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, in.(mm)		CAI	Plt.	Ins.	MTG. Hole	Construction Notes	Amphenol Number	Fig.
		Outer	Inner	a	c •							
55, 142, 223, 400	RP-SMA Plug	Crimp	Solder	.785(19.9)	.206(5.2)	C58	P12	D1	—	—	901-9884	3
174	RP-SMA Plug	Crimp	Solder	.940(23.9)	.128(3.2)	C58	P13	D1	—	Nickel Plated Body	901-9852	1
223	RP-SMA Ang Plug	Crimp	Solder	.560(14.2)	.220(5.6)	C58	P12	D1	—	—	901-9908	4
.141" S/R	RP-SMA Plug	Solder	Press-Fit	.480(12.2)	.145(3.7)	C59	P29	D1	—	Pre-installed Contact	901-9866	2

■ includes outer ferrule • inside diameter

Reverse Polarity RP-SMA Jacks and Receptacles

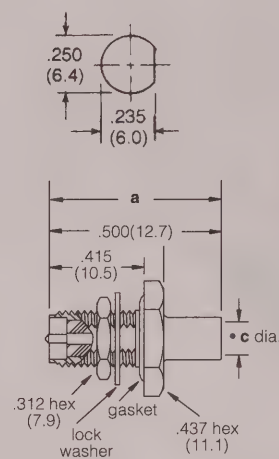
Amphenol®

Fig. 1



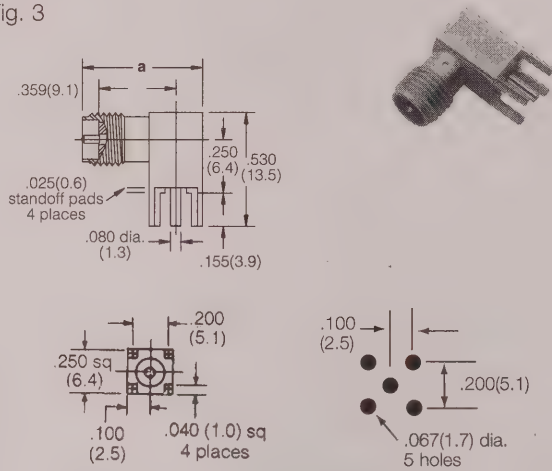
RP-SMA Bulkhead Jack
901-9863

Fig. 2



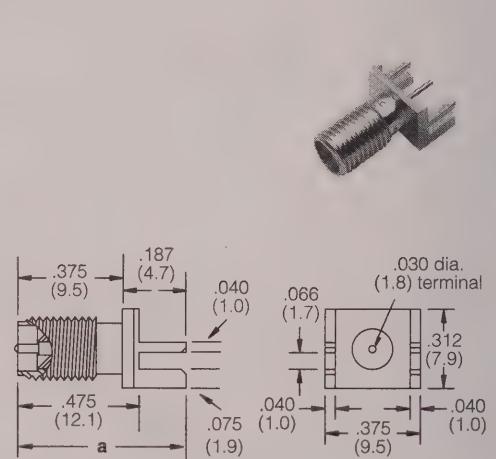
RP-SMA Bulkhead Jack
901-9857

Fig. 3



RP-SMA Rt. Angle PCB Jack Receptacle
901-9865

Fig. 4



RP-SMA PCB Edge Mount
Jack Receptacle for .062" thick board
901-9864

RP-SMA BULKHEAD JACKS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, in.(mm)		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
		Outer	Inne	a	c •						
174	RP-SMA Bulkh Jack	Crimp	Solder	1.50(38.1)	.128(3.2)	C58	P11	D1	—	901-9863	1
.141"S/R	RP-SMA Bulkh Jack	Solder	Solder	.750(19.0)	.145(3.7)	C59	P11	D1	Gasketed	901-9857	2

RP-SMA PCB RECEPTACLES

Description	Dimensions, in.(mm)		CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
	a	c •						
RP-SMA Rt. Angle PCB Receptacle (J), Post Terminal	.569(14.4)	—	—	P11	D1	—	901-9865	3
RP-SMA End Mount PCB Receptacle (J), Post Terminal	.662(16.8)	—	—	P11	D1	For .062" Thick Board	901-9864	4

■ includes outer ferrule

Description

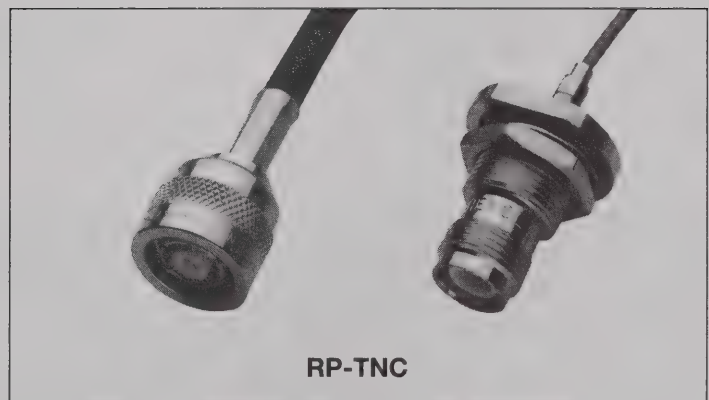
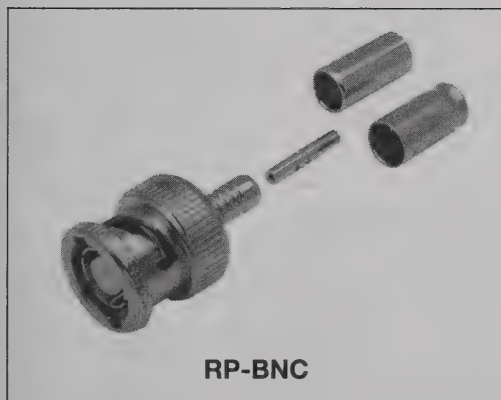
Amphenol reverse polarity BNC, TNC & SMA connectors (RP-BNCTM, RP-TNCTM, RP-SMATM) are designed for use in spread spectrum wireless applications where a non-standard interface has been mandated to comply with the requirements of FCC part 15.203.

Applications

- Spread Spectrum Wireless Devices
- Inventory Control

Features/Benefits

These connectors may also be used in applications where keying is a necessity. The RP-BNCs, RP-TNCs & RP-SMAs meet the same high quality requirements as standard Amphenol BNCs, TNCs & SMAs. They provide excellent performance — DC to 4 GHz for RP-BNCs, DC to 4 GHz for RP-TNCs and DC to 18 GHz for RP-SMAs.



Reverse Polarity RP-BNC and RP-TNC

Amphenol®

SPECIFICATIONS*

ELECTRICAL

Impedance	50 ohms
Frequency range	BNC: 0-4 GHz TNC: 0-4 GHz
Voltage rating	500 volts peak
Dielectric withstanding voltage	1,500 volts rms.
VSWR	Straight connectors 1.3 max. 0-4 GHz Right angle connectors 1.35 max. 0-4 GHz
Insertion loss	0.18 dB @ 9 GHz
Insulation resistance	5,000 megohms

MECHANICAL

Mating	BNC: Bayonet coupling TNC: .437-28 threaded coupling
Cable affixment	Braid & jacket: hex crimp
Center conductor	Hex crimp or solder
Captivated contact	Except as noted
Cable retention	20 to 100 lbs. depending on cable

MATERIAL

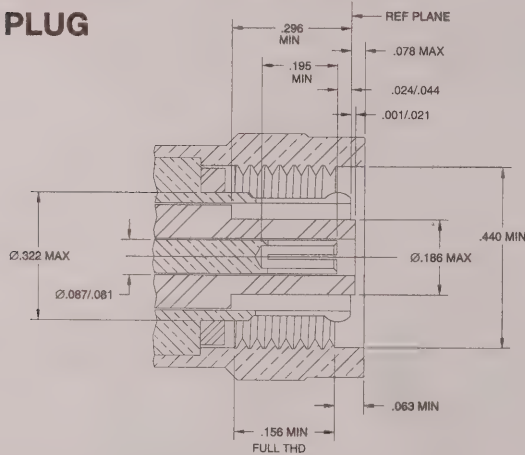
Center contacts	Male: brass. Female: beryllium copper or phosphor bronze. Gold plated
Crimp ferrule	Copper, nickel plated
Other metal parts	Brass (bright nickel finish)
Insulators	TFE
Weatherproof gaskets	Silicone rubber

* These characteristics are typical and may not apply to all connectors.

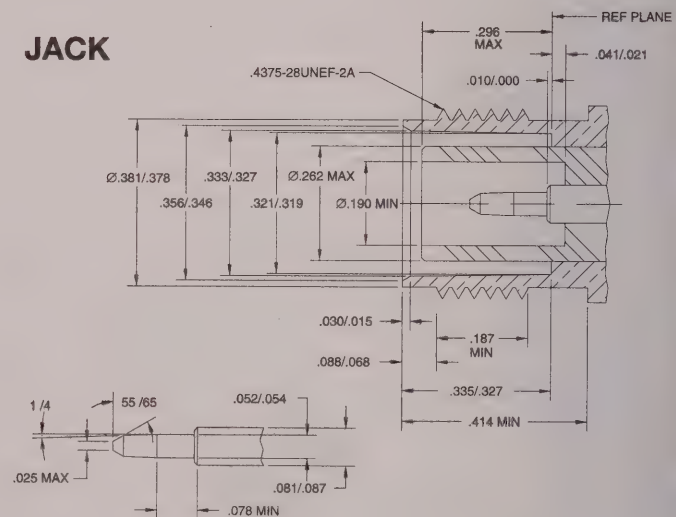
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Weatherproof	When mated with other Amphenol RP-TNC and RP-BNC connectors.
Corrosion	MIL-STD-202 method 101 (test cond. B)

PLUG



JACK

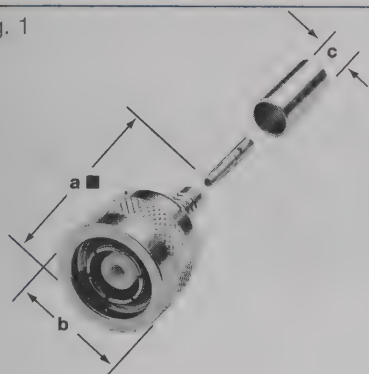


RP-TNC PLUGS, ANGLE PLUGS, JACKS, RECEPTACLES & ACCESSORIES

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				CAI	Plt.	Ins.	MTG Hole	Amphenol Number	Fig.
		Outer	Inner	a	b	c •	d						
58	RP-TNC Plug	Crimp	Crimp	1.12(28.4)■	.610(15.5)	.206(5.2)	—	C38	P15	D1	—	▲ 31-5677	1
	RP-TNC Jack	Crimp	Crimp	1.17(29.7)■	.510(12.9)	.206(5.2)	—	C38	P15	D1	—	▲ 31-5678	3
	RP-TNC Bulkhead Jack	Crimp	Crimp	1.41(35.8)■	.795(20.2) dia	.206(5.2)	.812(20.6)	C38	P15	D1	P	▲ 31-5687	6
142	RP-TNC Plug	Crimp	Crimp	1.12(28.4)■	.610(15.5)	.220(3.6)	—	C38	P15	D1	—	▲ 31-5677-1000	1
178	RP-TNC Panel Jack	Crimp	Crimp	1.06(27.0)■	.972(24.1)	.114(2.9)	.625(15.9)	C38	P15	D1	T	▲ 31-5685	5
	RP-TNC Bulkhead Jack	Crimp	Crimp	1.33(33.8)■	.795(20.2) dia	.114(2.9)	.812(20.6)	C38	P15	D1	P	▲ 31-5686	6
	RP-TNC Plug	Crimp	Solder	1.29(37.8)■	.610(15.5)	.438(11.1)	—	C38	P15	D1	—	▲ 31-5679	1
B9913	RP-TNC Angle Plug	Crimp	Solder	1.06(26.9)	.610(15.5)	.438(11.1)	1.85(47.0)■	C38	P15	D1	—	▲ 31-5680	2
	RP-TNC Jack	Crimp	Solder	1.41(35.8)■	.510(12.9)	.438(11.1)	—	C38	P15	D1	—	▲ 31-5684	3
RP-TNC Panel Receptacle, Solder Cup Terminal				1.06(27.0)	.687(17.4) sq.	—	.625(15.9)	—	P15	D1	K	▲ 31-5694	4
RP-TNC Right Angle Printed Circuit Board Receptacle				.880(22.4)	.580(14.7)	—	1.500(38.1)	—	P6	D1/31	—	▲ 31-5688	7

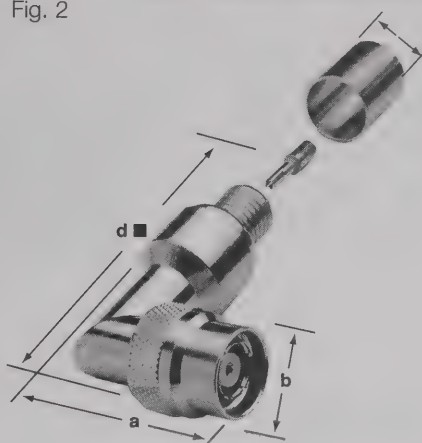
• accommodates cable diameter ▲ distributor stocked ■ includes outer ferrule

Fig. 1



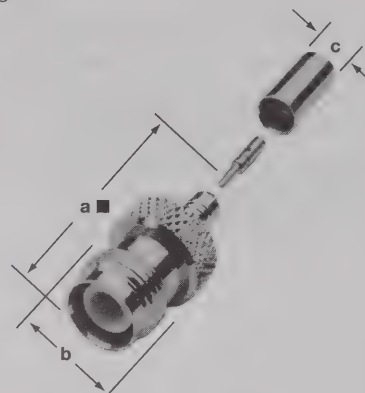
RP-TNC Plugs
31-5677▲
31-5677-1000▲
31-5679▲

Fig. 2



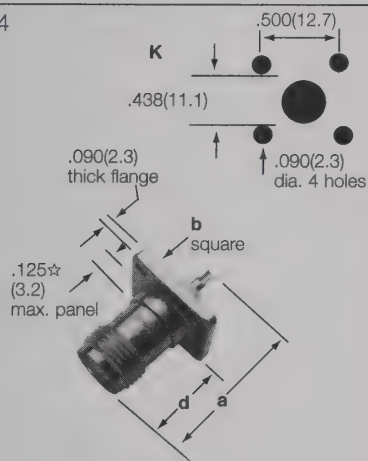
RP-TNC Angle Plug
31-5680▲

Fig. 3



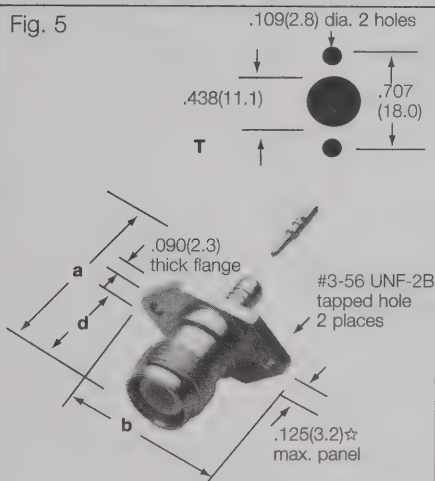
RP-TNC Jacks
31-5678▲

Fig. 4



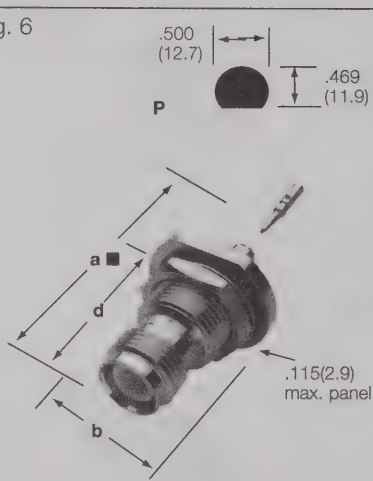
RP-TNC Panel Receptacle
Solder Cup Terminal
31-5694▲

Fig. 5



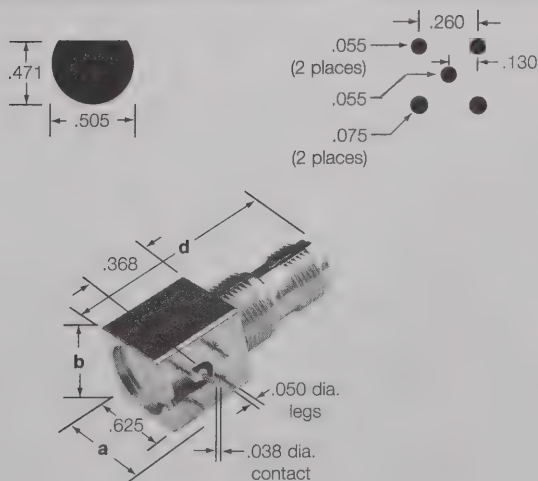
RP-TNC Panel Jack
31-5685▲

Fig. 6



RP-TNC Bulkhead Jacks
31-5687▲
31-5686▲

Fig. 7



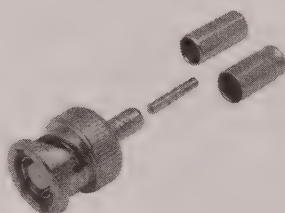
TNC Right Angle PCB Receptacle
31-5688

Reverse Polarity RP-BNC Connectors

Amphenol®

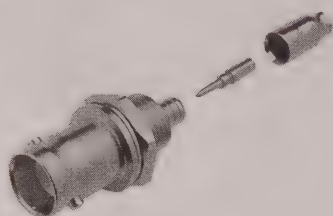
Amphenol's RP-BNC connectors provide the quick connect/disconnect bayonet lock coupling of the BNC series and ensures compliance with the FCC Part 15.203 requirements for a nonstandard interface. The RP-BNC plug is supplied with two crimp ferrules — one for use on PVC cables and another for use on smaller diameter plenum cables.

Fig. 1



RP-BNC Plug
31-5705

Fig. 2



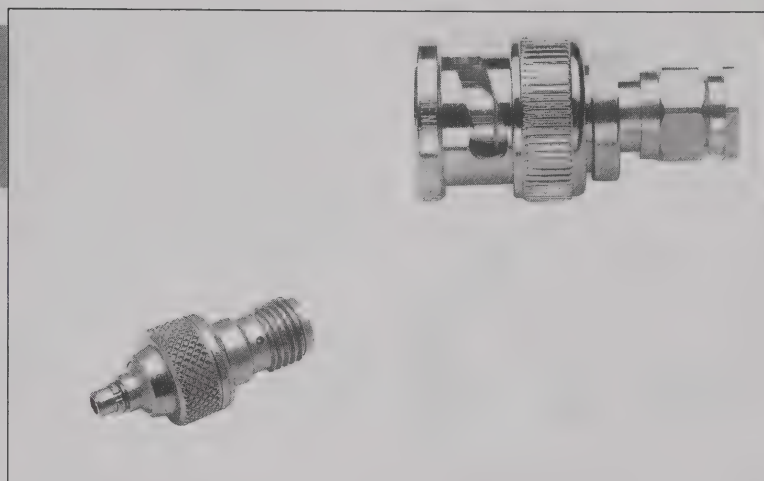
RP-BNC Bulkhead Jack
31-5787

RP-BNC PLUG

Cable RG-/U	Conn. Type	Cable Attachment		CAI	Pit.	Ins.	Amphenol Number	Fig.
		Outer	Inner					
58, 141	RP-BNC Plug	Crimp	Crimp	C38	P15	D1	31-5705	1
174, 188, 316	RP-BNC Bulkhead Jack Front Mount	Crimp	Crimp	C38	P15	D1	31-5787	2

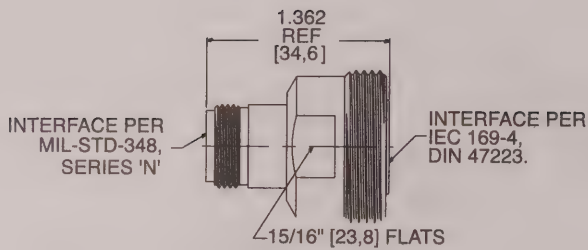
Description

Required for mating between different series of connectors.

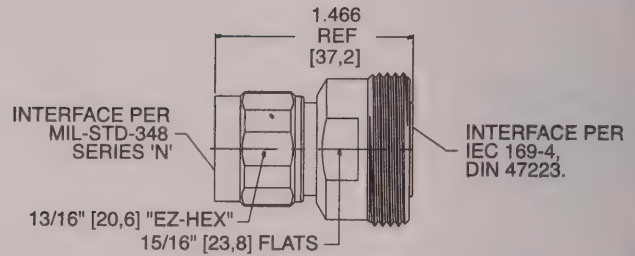


Between Series Adapters

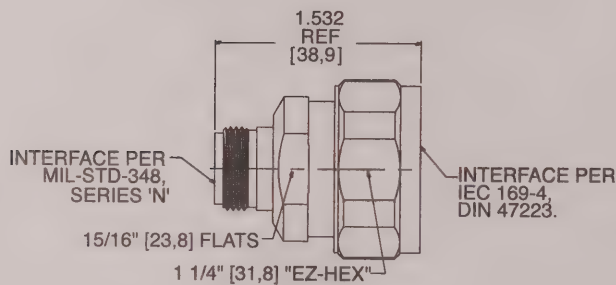
7/16 to N	170
SMA	171-172
Micro Mate (MMCX)	173
F to G	174



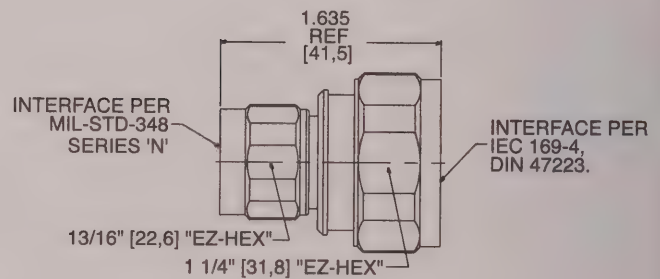
Amphenol APH-716F-NF



Amphenol APH-716F-NM



Amphenol APH-716M-NF



Amphenol APH-716M-NM

7/16 to N Between Series Adapters

Amphenol Part Number

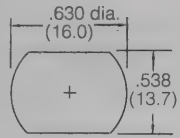
APH-716M-NM
APH-716M-NF
APH-716F-NM
APH-716F-NF

Description

716 Male to Type N Male Adapter
716 Male to Type N Female Adapter
716 Female to Type N Male Adapter
716 Female to Type N Female Adapter

Application Note: In our adapter terminology, we describe an adapter by referring to it's own construction, not by what the adapter connects to.

Fig. 1



N Jack to SMA Jack
901-3143-1000
VSWR: 1.3 max. DC-18 GHz

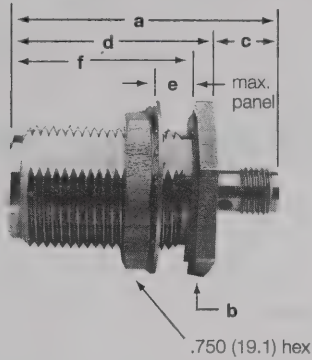
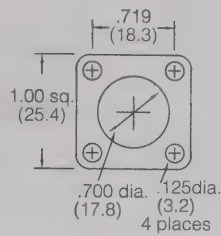


Fig. 2



N Jack to SMA Jack
901-9720
VSWR: 1.3 max. DC-7 GHz

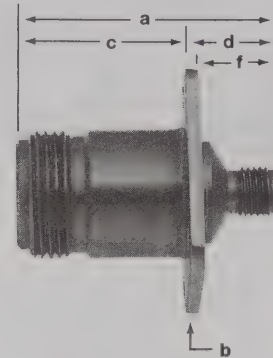
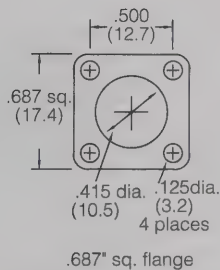
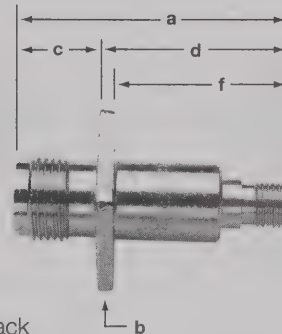


Fig. 3



SMA Jack to TNC Jack
901-280
VSWR: 1.3 max. DC-12.4 GHz



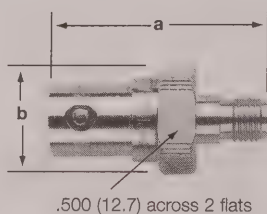
PANEL MOUNT BETWEEN SERIES ADAPTERS

Adapter Ends		Dimensions, inches (millimeters)						Plt.	Ins.	Notes	Amphenol Number	Fig.
		a	b	c	d	e	f					
N Jack	SMA Jack	1.36 (34.6)	.812(20.6) hex. .094(2.4) thick	.348 (8.8)	1.01(25.7)	.685(17.4)	.918(23.3)	P13	D1	Bulkh. Mount w/gasket	901-3143-1000	1
N Jack	SMA Jack	1.23 (31.2)	1.00(25.4) sq. .080(2.0) thick	.787 (20.0)	.445(11.3)	—	.365(9.3)	P13	D1	4-hole Flange Mount	901-9720	2
TNC Jack	SMA Jack	1.42 (36.1)	.687(17.4) sq. .090(2.3) thick	.425 (10.8)	1.00(25.4)	—	.910(23.1)	PCF	D1	4-hole Flange Mount	901-280	3

STRAIGHT BETWEEN SERIES ADAPTERS

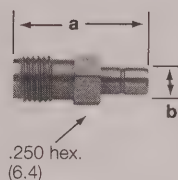
Adapter Ends		Dimensions, inches (millimeters)		Notes		Amphenol Number	Fig.
		a	b	Pit.	Ins.		
BNC Jack	SMA Jack	1.12 (28.6)	.562 (14.3) dia.	PCF	D1	901-167	5
N Jack	SMA Jack	1.66 (42.1)	.625 (15.9) dia.	PCF	D1	901-295	8
SMA Jack	SMB Jack	.705 (17.9)	.250 (6.4) hex.	P12	D1	901-9033	6
SMA Jack	TNC Jack	1.12 (28.6)	.562 (14.3) dia.	PCF	D1	901-171	7
SMA Jack	BNC Plug	1.06 (27.0)	.562 (14.3)	PCF	D1	901-165	9
SMA Jack	N Plug	1.66 (42.1)	.812 (20.6)	PCF	D1	901-294	10
SMA Jack	SMB Plug	.750 (19.1)	.250 (6.4) hex.	P1	D1	901-9034	11
BNC Jack	SMA Plug	1.16 (29.4)	.562 (14.3) dia.	PCF	D1	901-166	15
N Jack	SMA Plug	1.70 (43.2)	.625 (15.9) dia.	PCF	D1	901-293	16
BNC Plug	SMA Plug	1.09 (27.8)	.562 (14.3) dia.	PCF	D1	901-164	12
N Plug	SMA Plug	1.70 (43.2)	.812 (20.6) dia.	PCF	D1	901-292	13
SMA Plug	TNC Plug	1.12 (28.6)	.593(15.1) dia.	PCF	D1	901-168	14

Fig. 5



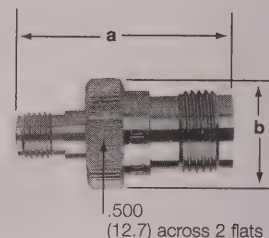
BNC Jack to SMA Jack
901-167
VSWR: 1.3 max. DC-4 GHz

Fig. 6



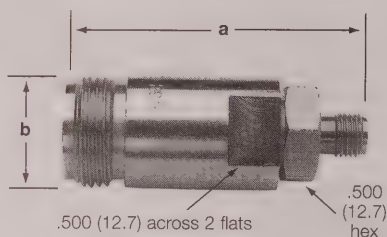
SMA Jack to SMB Jack (male contact)
901-9033
VSWR: 1.08 max. DC-4 GHz

Fig. 7



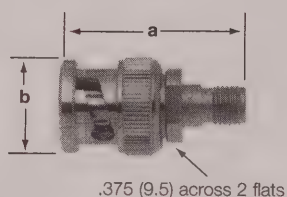
SMA Jack to TNC Jack
901-171
VSWR: 1.3 max. DC-12.4 GHz

Fig. 8



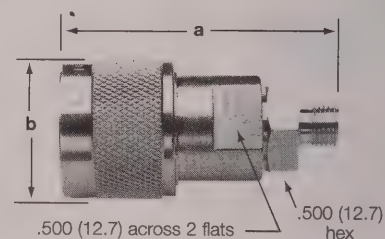
N Jack to SMA Jack
901-295
VSWR: 1.3 max. DC-12.4 GHz

Fig. 9



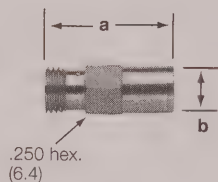
SMA Jack to BNC Plug
901-165
VSWR: 1.3 max. DC-4 GHz

Fig. 10



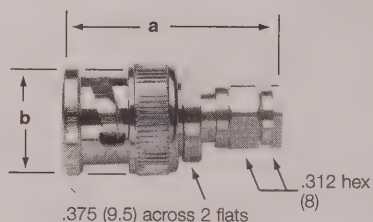
SMA Jack to N Plug
901-294
VSWR: 1.3 max. DC-12.4 GHz

Fig. 11



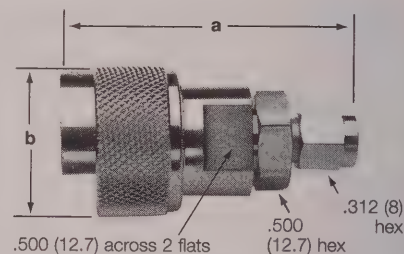
SMA Jack to SMB Plug (female contact)
901-9034
VSWR: 1.08 max. DC-4 GHz

Fig. 12



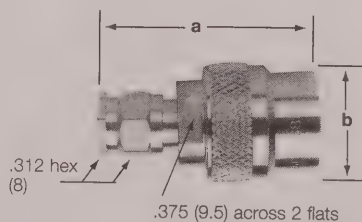
BNC Plug to SMA Plug
901-164
VSWR: 1.3 max. DC-4 GHz

Fig. 13



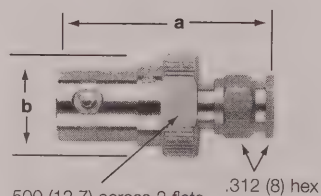
N Plug to SMA Plug
901-292
VSWR: 1.3 max. DC-12.4 GHz

Fig. 14



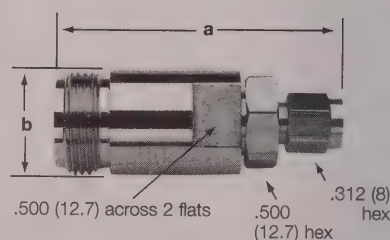
SMA Plug to TNC Plug
901-168
VSWR: 1.3 max. DC-12.4 GHz

Fig. 15



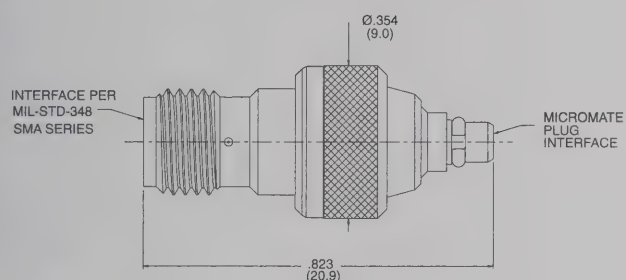
BNC Jack to SMA Plug
901-166
VSWR: 1.3 max. DC-4 GHz

Fig. 16



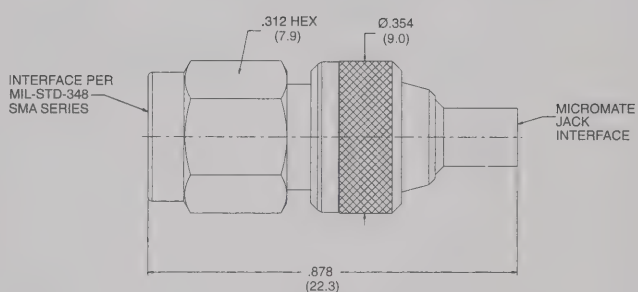
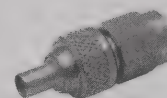
N Jack to SMA Plug
901-293
VSWR: 1.3 max. DC-12.4 GHz

Fig. 1



MMCX Plug to SMA Jack Adapter
908-31100

Fig. 2

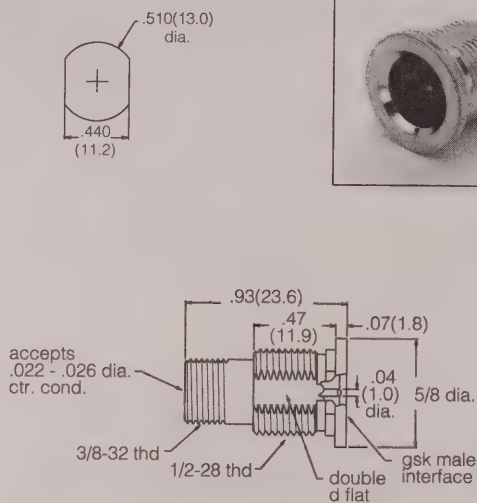


MMCX Jack to SMA Plug Adapter
908-32101

Adapters, Between Series Type F to Type G

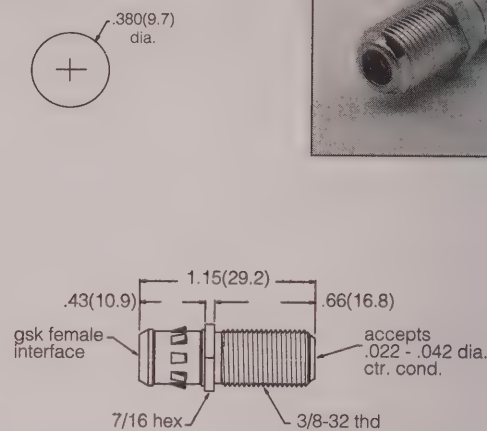
Amphenol®

Fig. 1



Type F to Type G Adapter, Jack-Plug
531-40010

Fig. 2

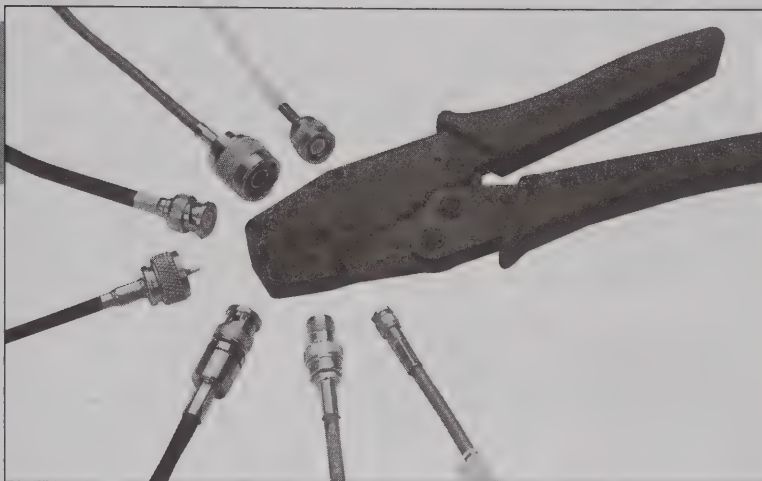


Type F to Type G Adapter
531-40009

Amphenol Number	Materials			Terminal Type	Fig.
	Body (plating)	Contact (plating)	Insulator		
531-40010	brass (tin lead)	phosphor bronze (tin lead)	PTFE	Round	1
531-40009	brass (tin plate)	phosphor bronze (nickel)	PTFE	N/A	2

Description

Amphenol offers a full line of termination tooling to meet your specific production requirements. All tools meet Amphenol's stringent design and quality requirements, including full cycle ratchet control, which prevents the connector from being removed from the tool prior to completing the crimping operation. Amphenol's tools provide a consistent and reliable crimp each and every time, thereby insuring the integrity of the connector termination.



Tools

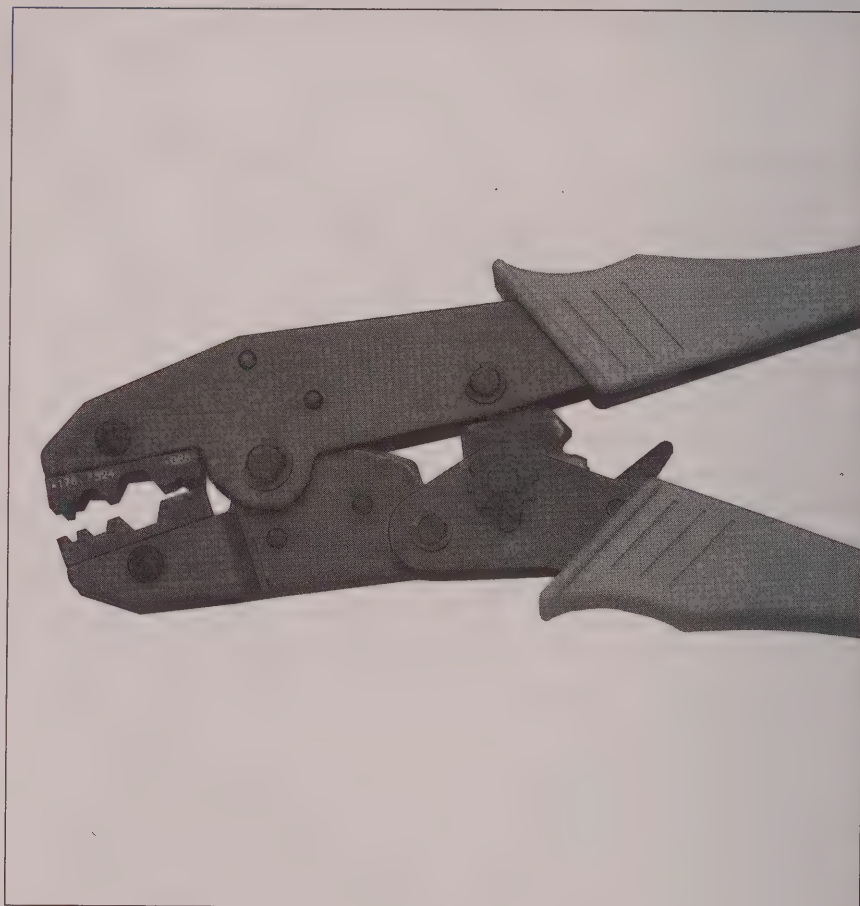
CTL Crimp Series	176-177
TWINHEX Crimp Tool System	178
TRIHEX Crimp	179
ECONOHEX Crimp	179
MMCX	180

CTL Series Crimp Tools

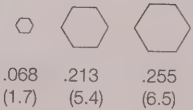
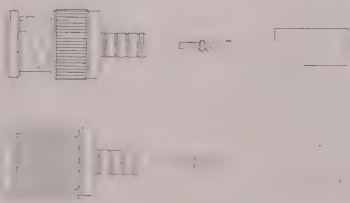
Amphenol CTL Series crimp tools are sold complete as a tool handle with the die set included. Purchase of some or all of the seven tools shown below will allow the user to terminate most popular RG coaxial cables.

To order the crimp tool required for a specific application, please refer to the Connector Assembly Instruction for the Amphenol part number. The recommended tool number is listed under the column labeled "CTL Series Tool Number".

Cross Reference		CTL Series Tool No.
MIL-T-22520 Die Sets	227-No. Die Sets	
/5-11, -13	-1221-11, -13	CTL-1
/5-09	-1221-09 & -32	CTL-2
/5-57	-1221-25 & -57	CTL-3
—	-1414	CTL-4
/5-11, -13, -57 & -59	-1221-11, -13, -57 & -59 -980-1, -1409	CTL-5
/5-09, -13	-1221-09, -13, -980-1, -980-7	CTL-6
/5-13	-1221-13, -32, -980-1, -980-3	CTL-8


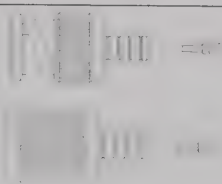


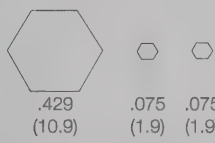
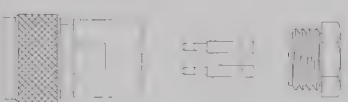
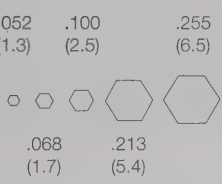
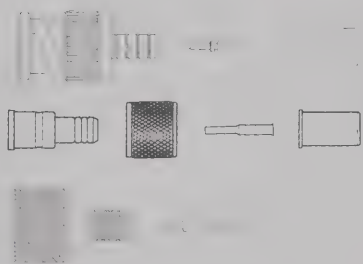
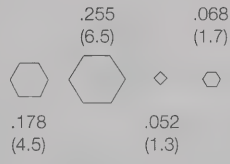
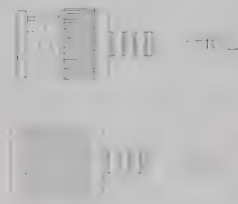
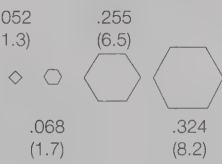
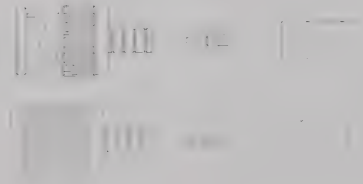
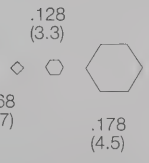
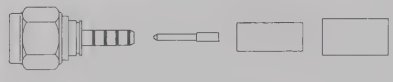
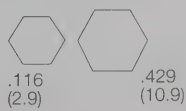



Tool Data

CTL Series Tool No.	Hex Sizes	Cable RG-/U	Connectors	Notes
CTL-1 ▲	 .068 (1.7) .213 (5.4) .255 (6.5)	RG-55, 58, 141, 142 223, 303, 400 RG-59, 62, 140, 210 Plenum 59, 62 Belden 9258, 9259, 9907, 89907		for BNC, & TNC 3-Piece Crimp Connectors

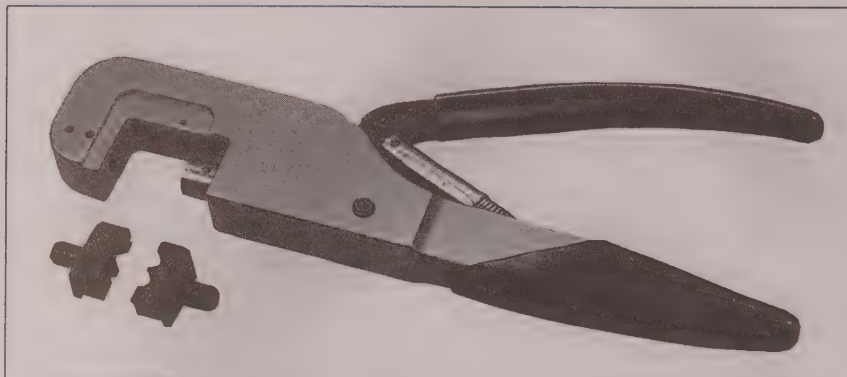
▲ distributor stocked

Tool Data

CTL Series Tool No.	Hex Sizes	Cable RG-/U	Connectors	Notes
CTL-2	 .178 (4.5) .324 (8.2) .068 (1.7)	RG-6 RG-174, 188, 316 RG-179, 187 Plenum 58 Belden 8281		for BNC & TNC 3-Piece Crimp Connectors
CTL-3	 .100 (2.5) .429 (10.9) .213 (5.4)	RG-55, 58, 141, 142 223, 303, 400 RG-8, 11, 149, 213, 214, 225, 393 Ethernet Cables		for Type N 3-Piece Crimp Connectors
CTL-4	 .429 (10.9) .075 (1.9) .075 (1.9)	Belden 8227 9207, 89207 IBM 7362211 Twinax Cable		for Center Contacts of Twinax Plugs 82-5589 and 82-5589-RFX1
CTL-5	 .052 (1.3) .100 (2.5) .255 (6.5) .068 (1.7) .213 (5.4)	RG-55, 58, 141, 142 223, 303, 400 RG-59, 62, 140, 210 Plenum 59, 62 Belden 9258, 9259, 9907, 89907		for BNC, TNC, Mini-UHF, and Type N 3-Piece Crimp Connectors
CTL-6	 .255 (6.5) .068 (1.7) .178 (4.5) .052 (1.3)	RG-174 RG-59, 62 Plenum 59, 62		for 50Ω and 75Ω BNC & TNC 3-Piece Crimp Connectors
CTL-8	 .052 (1.3) .255 (6.5) .068 (1.7) .324 (8.2)	RG-59, 62 Plenum 59, 62 RG-6		for 50Ω and 75Ω BNC & TNC 3-Piece Crimp Connectors
CTL-9	 .128 (3.3) .068 (1.7) .178 (4.5)	RG-174, 188, 360, 180		for SMA Crimp Connectors
CTL-11	 .116 (2.9) .429 (10.9)	Belden 9913, 9914, TWB 4001		for Type N 3-Piece Crimp Connectors

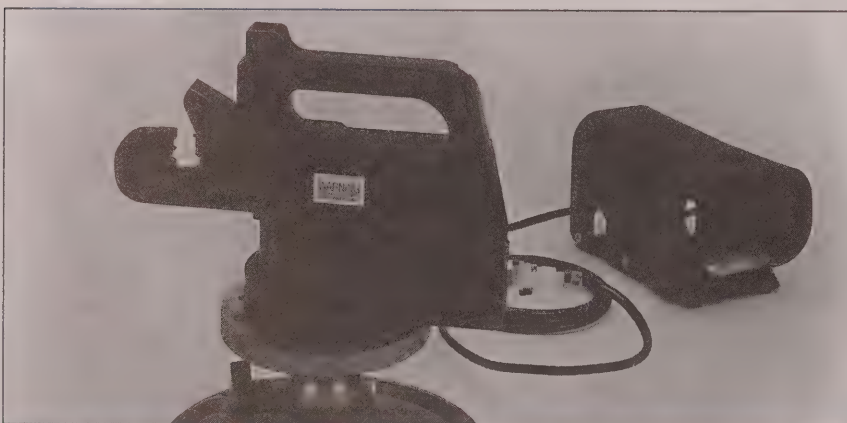
▲ distributor stocked

Hand Crimp Tool



The Amphenol TWINHEX crimp tool system is used in Industrial/ Military Standard applications. It consists of a tool frame and a selection of die sets for use in assembling Amphenol RF connectors.

Pneumatic Crimp Tool



The Amphenol pneumatic crimp tool 227-60 is designed for use in high volume RF connector/cable assembly applications. Bench mountable on a swivel base, this high speed crimp tool runs on a standard 85/100 psi air-line and is actuated by a foot switch for hands-free operation.

Die Sets for Crimp Tool 227-944 & Pneumatic Crimp Tool 227-60

Amphenol Die Set Number	Military Die Set Number	Hex Size Inches (mm)	
		Cavity A (Outer)	Cavity B (Inner)
227-980-1	—	.255(6.5)	.049(1.2)
227-980-2 ▲	—	.178(4.5)	.049(1.2)
227-980-3 ▲	—	.324(8.2)	.052(1.3)
227-980-7	—	.178(4.5)	.052(1.3)
227-1221-3 ▲	M22520/5-03	.128(3.2)	.105(2.7)
227-1221-9 ▲	M22520/5-09	.178(4.5)	.068(1.7)
227-1221-11 ▲	M22520/5-11	.213(5.4)	.068(1.7)
227-1221-13 ▲	M22520/5-13	.255(6.5)	.068(1.7)
227-1221-15	M22520/5-15	.263(6.7)	.068(1.7)
227-1221-23 ▲	M22520/5-23	.384(9.8)	—
227-1221-25 ▲	—	.429(10.9)	.100(2.5)
227-1221-29	M22520/5-29	.324(8.2)	.100(2.5)
227-1221-32 ▲	—	.324(8.2)	.068(1.7)
227-1221-37	M22520/5-37	.314(8.0)	.151(3.8)
227-1221-57 ▲	M22520/5-57	.213(5.4)	.100(2.5)
227-1221-59	M22520/5-59	.255(6.5)	.100(2.5)
227-1221-61	—	.151(3.84)	.068(1.73)
227-1409	—	.213(5.4)	.052(1.3)sq
227-1414	—	.429(10.9)	B/C = .075(1.9)
227-1448	—	.160(4.1)	.049(1.2)

▲ distributor stocked

Order Information

TWINHEX tool frame 227-944 (M22520/5-01) and pneumatic crimp tool 227-60 are sold without dies. To order the die set required for your application, please refer to the Connector Assembly Instruction for the connector part number. The recommended die set number is listed in the column headed "Die Set for Tool 227-944" (& for 227-60).

Military Number	Amphenol Number	Description
227-944 ▲	M22520/5-01	Hand Tool Frame for use with Twinhex 227-1221-XX and 227-980-X Die Sets (Die Sets sold separately)
227-60 ▲	—	Pneumatic Crimp Tool with Swivel Base, Foot Switch and Hose (Connects tool to foot switch) (Die Sets for 227-60 are same as those used in Hand Tool Frame 227-944 and are sold separately)

Tools

TRIHEX & ECONOHEX Crimp System

Amphenol®

TRIHEX Crimp Tool



The Amphenol TRIHEX crimp tool provides an economical approach to terminating crimp connectors.

This compact, easy-to-use, three-cavity hand tool incorporates the same crimping ability as most popular two-die crimp tools. But quality is not sacrificed for economy:

- **Full cycle, reinforced ratchet control** — provides the high repeatability and reliability benefit of crimp terminated connectors.

- **Heavy duty steel construction** — stands up to in-the-field use.

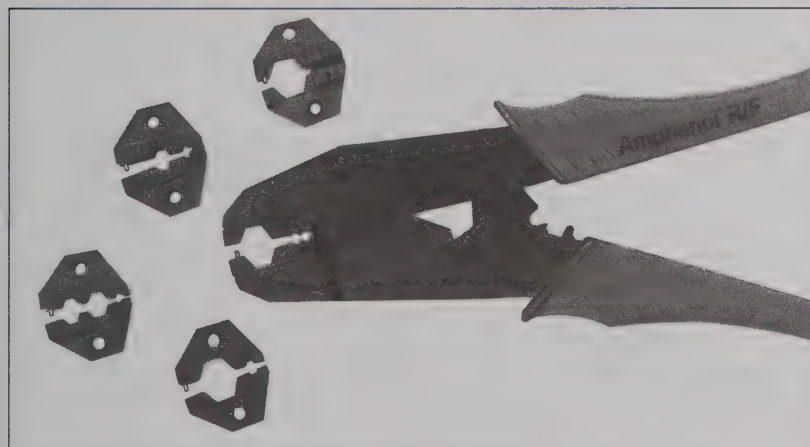
Two models are available, providing maximum flexibility for use in a wide variety of applications.

TRIHEX order information

Amphenol Die Set Number	Cable RG-/U	Hex Sizes Across Flats, In. (mm)		
		Cavity A	Cavity B	Cavity C
227-962 ▲	55, 58, 59, 62, 140, 141, 142, 210, 223, 303, 400	.213(5.4)	.255(6.5)	.068(1.7)
227-967	59, 62, Belden 8281	.324(8.1)	.255(6.5)	.068(1.7)

▲ distributor stocked

ECONOHEX™ Crimp Tool and Dies

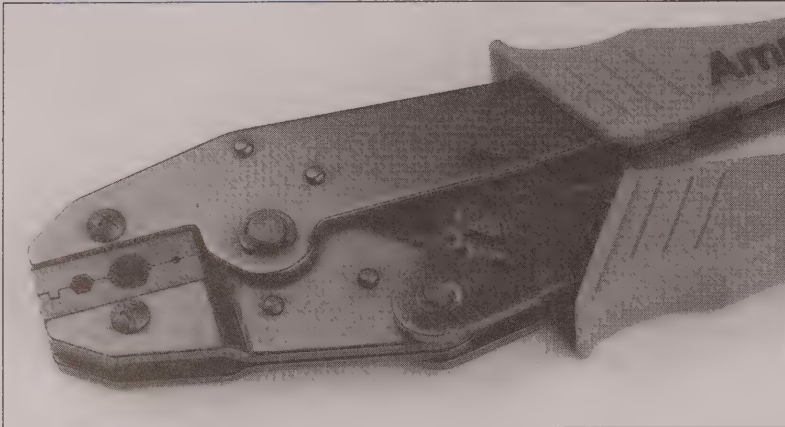


The Amphenol ECONOHEX hand crimp tool is similar in features and application to the TRIHEX crimp tools. However, the ECONOHEX provides the additional feature of die set insertion and removal such that the purchase of the ECONOHEX tool handle and some or all of the four die sets will allow the user to terminate most popular RG coaxial cables as well as Twinaxial cable for IBM system 3X networks.

ECONOHEX order information

Amphenol Die Set Number	Cable RG-/U	Connector Series by Cavity Used	Hex Sizes Across Flats, In. (mm)	
			Cavity A (outer)	Cavity B (inner)
227-1420 ▲	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393	BNC, N	.429(10.9)	.100(2.5)
227-1419 ▲	55, 58, 141, 142, 142B, 223, 303, 400	BNC, RP-BNC, RP-TNC, RP-SMA	Cav. B = .213(5.4)	Cav. C = .068(1.7)
	59, 62, 140, 210, 302, Belden 9258, Amph. 621-6003	BNC	Cav. A = .255(6.5)	
227-1418 ▲	122, 180, 195, 316, Amphenol 21-597	BNC	.178(4.5)	.068(1.7)
227-1417	Belden 8227, 9207; IBM 7362211 Twinax Cable	B/C only center contacts of 82-5589 Twinax Plug	.429(10.9)	B/C = .075(1.9)
227-987 ▲	ECONOHEX Tool Handle without dies			

CTL Crimp Tool



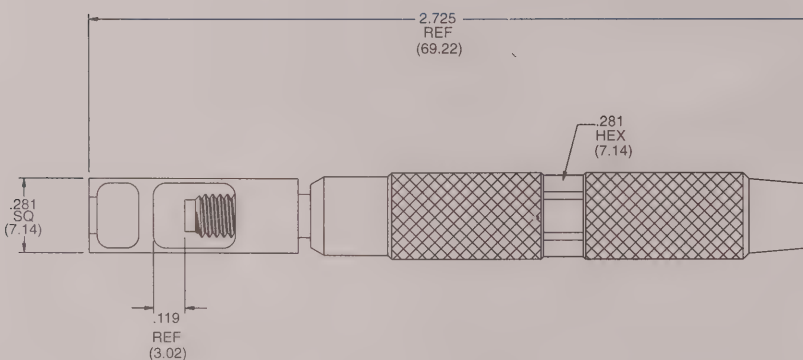
Amphenol CTL Series crimp tools are sold complete as a tool handle with the die set included. Purchase of some or all of the seven tools shown below will allow the user to terminate most popular RG coaxial cables.

To order the crimp tool required for a specific application, please refer to the Connector Assembly Instruction for the Amphenol part number. The recommended tool number is listed under the column labeled "CTL Series Tool Number".

CTL Crimp Tool order information

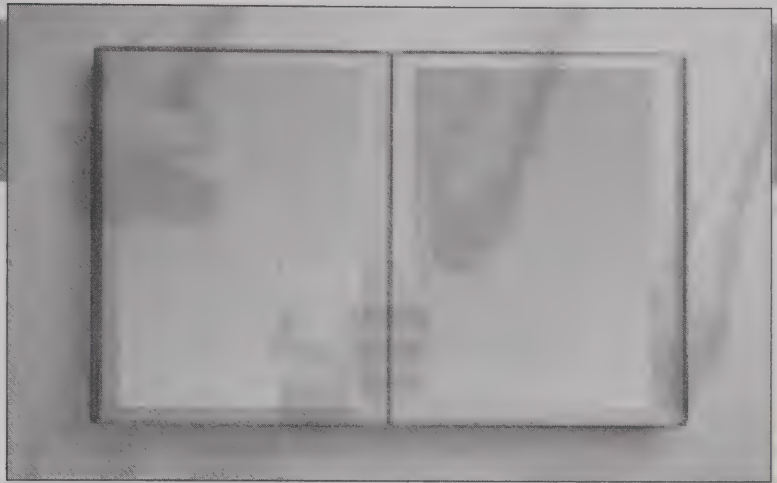
Crimp Tool Part Number	Cable RG-/U	Connector Series by Cavity Used	Hex Sizes Across Flats, In. (mm)		
			Cavity 1	Cavity 2	Cavity 3
CTL-13	RG-174, 178, 188, 196, 316, RD-316	MicroMate, SMB, SMA	.105 (2.67)	.128 (3.25)	.151 (3.84)

CAP Installation and Connector Removal Tool



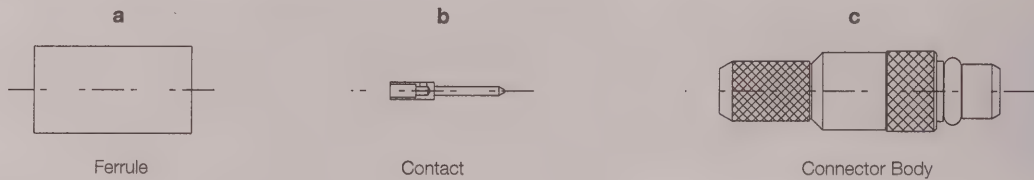
Universal tool for MicroMate (MMCX) right angle connectors for protective cap mounting and decoupling of connectors.

Tool #908-50100

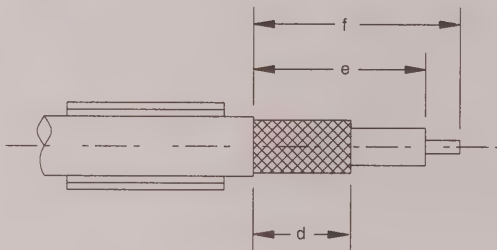


MMCX	182-185
MCX	186-189
UHF	190-194
BNC	195, 199-207
Type N	196-197
Twinax	198
Twin BNC	208
TNC	209-211
Reverse Polarity	212
Mini-UHF	213
SMA	214-226
SMB	227-229

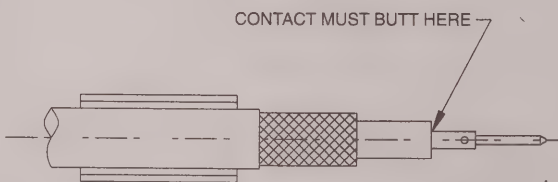
STRAIGHT CONNECTORS FOR FLEXIBLE CABLE



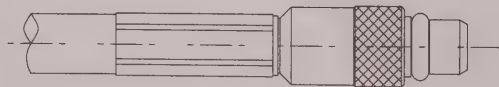
Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data		Stripping Dimensions, inches (mm)		
			Cavity for Outer Ferrule	CTL Series Tool No.	d	e	f
908-41200	Straight Plug	RG-178, 196	.105 (2.67)	CTL-13	.170 (4.32)	.300 (7.62)	.360 (9.14)
908-41300	Straight Plug	RG-174, 188, 316	.128 (3.25)	CTL-13	.170 (4.32)	.300 (7.62)	.340 (8.64)
908-41500	Straight Plug	RD-316	.151 (3.84)	CTL-13	.170 (4.32)	.300 (7.62)	.340 (8.64)
908-42300	Straight Jack	RG-174, 188, 316	.128 (3.25)	CTL-13	.170 (4.32)	.300 (7.62)	.340 (8.64)



Step 1 Prepare cable according to diagram. Do not damage braid and inner conductor of cable. Slide crimp ferrule "a" over the braid.

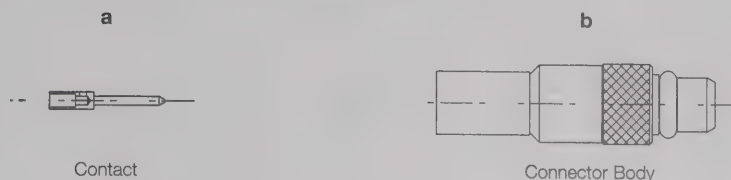


Step 2 Solder contact "b" to the center conductor of the cable. Contact must butt on the dielectric of the cable as shown.

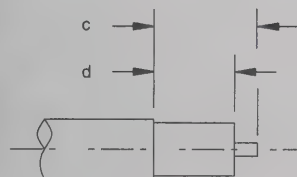


Step 3 Flare braid and insert contact into body assembly "c". Contact must bottom in insulator resulting in a dimension of $.006 \pm .007$ from the tip of the contact to the end of the body. Crimp ferrule using the appropriate hex dies.

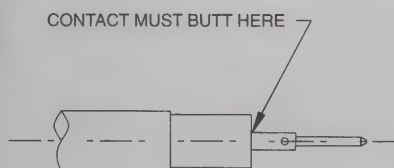
STRAIGHT CONNECTORS FOR SEMI-RIGID CABLE



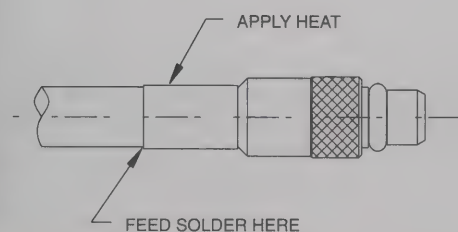
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)	
			c	d
908-41400	Straight Plug	.086 Semi-Rigid	.180 (4.57)	.140 (3.56)
908-41600	Straight Plug	.047 Semi-Rigid	.200 (5.08)	.140 (3.56)



Step 1 Prepare cable according to diagram. Remove burrs from outer/inner conductors of cable.

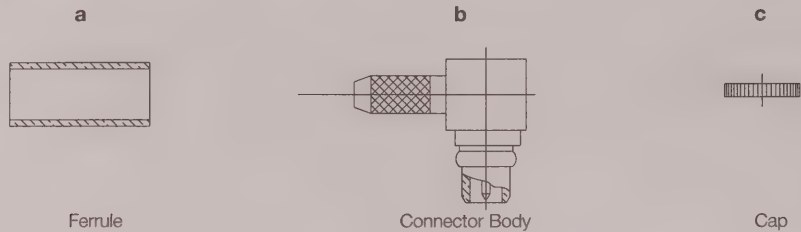


Step 2 Solder center contact "a" to inner conductor of cable using Sn60 solder. Contact must butt on dielectric of cable as shown.



Step 3 Insert contact into body assembly "b" as shown. Holding body and cable firmly, apply heat as shown and feed solder (Sn-60) as indicated. Allow to cool. The dimension from the contact tip to the end of the body should be $.006 \pm .007$.

RIGHT ANGLE CONNECTORS FOR FLEXIBLE CABLE



Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data		Stripping Dimensions, inches (mm)		
			Cavity for Outer Ferrule	CTL Series Tool No.	d	e	f
908-43200	Right Angle Plug	RG-178, 196	.105 (2.67)	CTL-13	.170 (4.32)	.235 (5.97)	.285 (7.24)
908-43300	Right Angle Plug	RG-174, 188, 316	.128 (3.25)	CTL-13	.170 (4.32)	.235 (5.97)	.285 (7.24)
908-43500	Right Angle Plug	RD-316	.151 (3.84)	CTL-13	.170 (4.32)	.235 (5.97)	.285 (7.24)

BRAID AND DIELECTRIC

Step 1 Prepare cable according to diagram. Do not damage braid and inner conductor of cable. Slide crimp ferrule "a" over the braid.

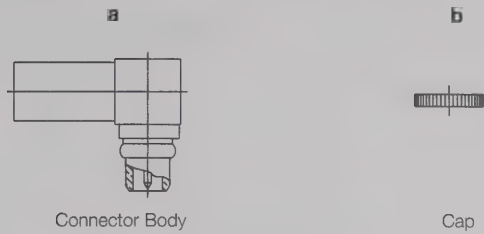
CRIMP ZONE

Step 2 Flare braid and insert into body. Slide crimp ferrule over body and crimp the ferrule using appropriate crimp tool and die cavity.

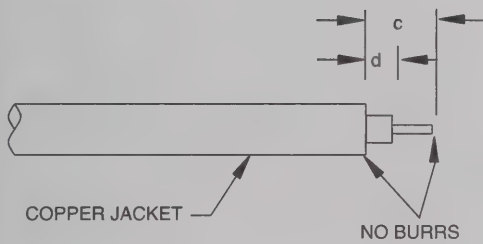
SOLDER

Step 3 Solder inner conductor to contact (Sn 60 recommended). Place cap "c" on rear opening of body "b". Press cap "c" into housing "b" with a flat punch or tool #908-50100.

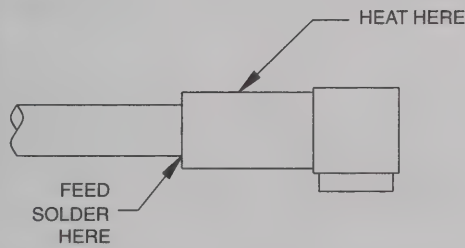
RIGHT ANGLE CONNECTORS FOR SEMI-RIGID CABLE



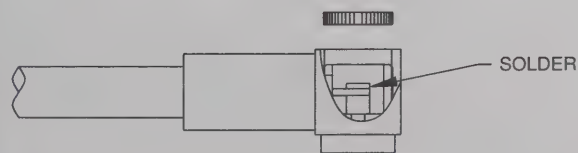
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)	
			c	d
908-43400	Right Angle Plug	.086 Semi-Rigid	.090 (2.29)	.050 (1.27)
908-43600	Right Angle Plug	.047 Semi-Rigid	.090 (2.29)	.050 (1.27)



Step 1 Prepare cable as shown. Remove burrs from outer/inner conductor of cable.



Step 2 Insert cable into connector until it bottoms on shoulder of body. Solder outer conductor (Sn-60) recommended.



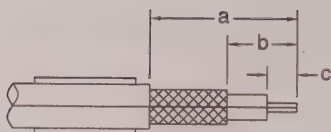
Step 3 Solder inner conductor to contact (Sn-60 recommended). Place cover "b" on rear opening of body "a". Press cap "b" into housing "a" with a flat punch or tool #908-50100.

CRIMP TYPE PLUGS



Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (MM)		
					a	b	c
919-101P-51SX	50Ω MCX Plug	174, 188, 316	—	—	.385	.181	.098
919-101P-51S1X	50Ω MCX Plug	174, 188, 316	—	—	.385	.181	.098
919-107J-51SX	50Ω MCX Jack	174, 188, 316	—	—	.385	.181	.098
919-107J-51S1X	50Ω MCX Jack	174, 188, 316	—	—	.385	.181	.098

Step 1



Step 1 Slide ferrule over cable. Trim cable to dimensions shown in table above.

Step 2



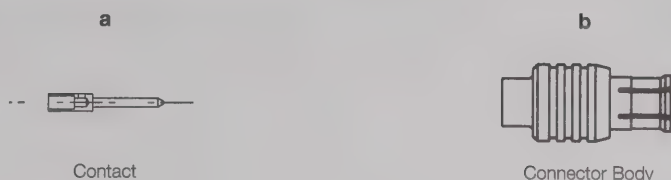
Step 2 Tin center conductor
Assemble contact over center conductor so that shoulder of contact butts against cable dielectric. Heat contact to solder.

Step 3

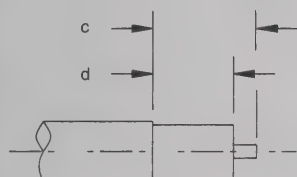


Step 3 Insert cable and contact into back end of crimp body. Contact shoulder will bottom in insulator. Slide ferrule over braid and crimp using hex die shown in table above.

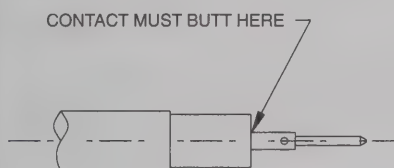
STRAIGHT CONNECTORS FOR SEMI-RIGID CABLE



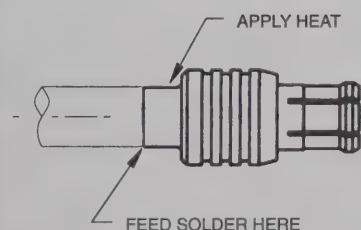
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)	
			c	d
919-114J-51SX	Straight Plug	.086 Semi-Rigid	.118	.039



Step 1 Prepare cable according to diagram. Remove burrs from outer/inner conductors of cable.

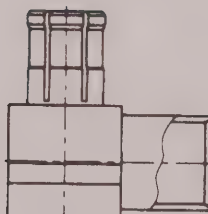


Step 2 Solder center contact "a" to inner conductor of cable using Sn60 solder. Contact must butt on dielectric of cable as shown.



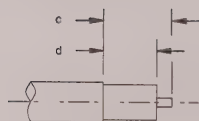
Step 3 Insert contact into body assembly "b" as shown. Holding body and cable firmly, apply heat as shown and feed solder (Sn-60) as indicated. Allow to cool. The dimension from the contact tip to the end of the body should be .006 ±.007.

RIGHT ANGLE PLUGS FOR SEMI-RIGID CABLE



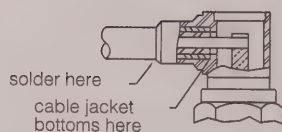
Amphenol Number	Connector Type	Cable RG/U	Dim c	Dim d
919-102P-51AX	MCX Angle Plug	.086 Semi Rigid	.157	.051
919-103P-51AX	MCX Angle Plug	.141 Semi Rigid	.157	.051

Step 1



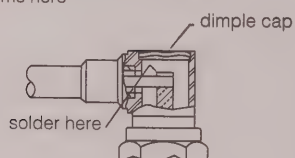
Step 1 Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from cable jacket and center conductor.

Step 2



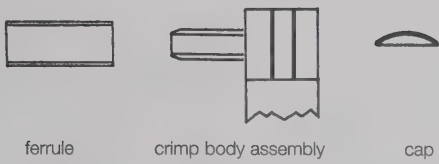
Step 2 Assemble cable into connector body. Bottom cable in connector body as shown. Solder cable to connector body as shown.

Step 3

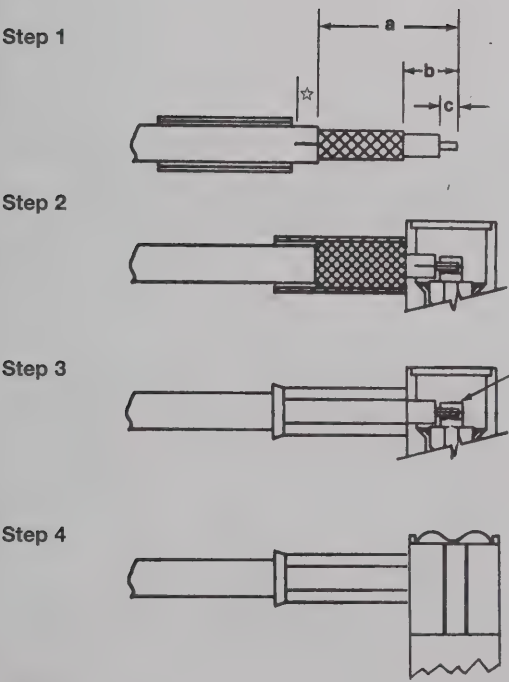


Step 3 Solder center conductor to contact as shown. Remove excess solder. Assemble cap and solder or lightly punch center of cap for retention in body.

RIGHT ANGLE PLUGS & CRIMP TYPE



Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (mm)		
					a	b	c
919-104P-51AX	MCX Angle Plug	174, 188, 316	—	—	.385	.181	.098
919-104P-51A1X	MCX Angle Plug	174, 188, 316	—	—	.385	.181	.098



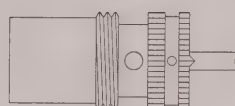
- Step 1** Slide ferrule over cable. Trim cable to dimensions shown in table above. Tin center conductor. Make 2 slits in jacket .062"(1.6mm) long, 180° apart.
- Step 2** Insert cable into back end of crimp body assembly as shown. Center conductor will enter slot in contact. Slide ferrule over braid and crimp using hex die shown in table above.
- Step 3** Solder center conductor into contact.
- Step 4** Insert cap into body and dimple or lightly punch center of cap for retention in body.

UG STANDARD SOLDER TYPE

PLUGS 83-1SP, 83-1SP-1050, 83-1SP-15RFX, 83-822



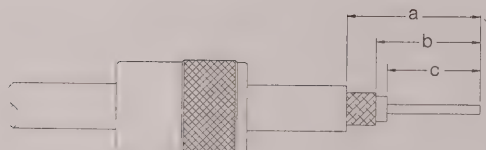
coupling ring



plug sub-assembly

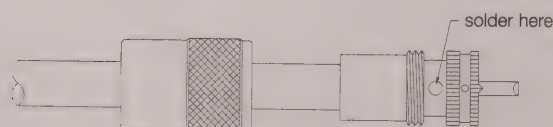
Amphenol Number	Connector Type	Cable RG-/U	Attachment Data		Stripping Dimensions, inches (mm)		
			Outer	Inner	a	b	c
83-1SP-1050	UHF Plug	8, 9, 11, 213, 214, 63, 87A, 225	Solder	Solder	1.25(31.8)	.687(17.4)	.625(15.9)
83-1SP	UHF Plug	8, 9, 11, 213, 214, 63, 87A, 225	Solder	Solder	1.25(31.8)	.687(17.4)	.625(15.9)
83-1SP-15RFX	UHF Plug	8, 9, 11, 213, 214, 63, 87A, 225	Solder	Solder	1.25(31.8)	.687(17.4)	.625(15.9)
83-822	UHF Plug	8, 9, 11, 213, 214, 63, 87A, 225	Solder	Solder	1.25(31.8)	.687(17.4)	.625(15.9)

Step 1



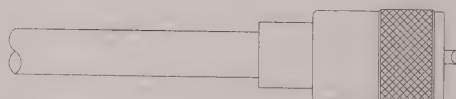
Step 1 Slide coupling ring onto cable. Cut end of cable even and strip jacket, braid and dielectric to dimensions shown in table. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor. Tin exposed center conductor and braid, avoiding excessive heat.

Step 2



Step 2 Screw the plug sub-assembly on cable. Solder assembly to braid through solder holes, making a good bond between braid and shell. Solder conductor to contact. Do not use excessive heat.

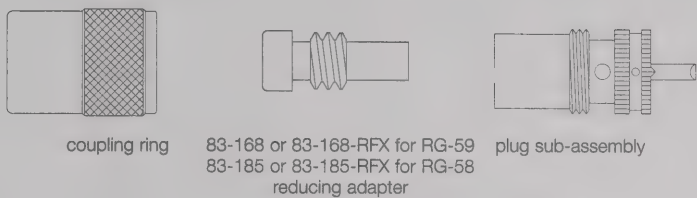
Step 3



Step 3 For final assembly on straight plugs, move coupling ring forward and screw in place on plug sub-assembly.

UG STANDARD SOLDER TYPE WITH REDUCING ADAPTER

FOR PLUGS 83-1SP, 83-1SP-1050, 83-1SP-15RFX, 83-822, USING 83-168 83-168-RFX, OR 83-185, 83-185-RFX REDUCING ADAPTER



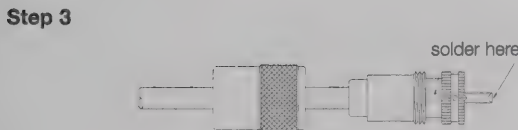
Amphenol Number	Connector Type	Cable RG-/U (using 83-168 or 83-138-RFX)	Cable RG-/U (using 83-185 or 83-185-RFX)	Attachment Data		Using 83-168 or 83-185			Using 83-168-RFX or 83-185-RFX		
						Stripping Dims, inches (mm)			Stripping Dims, inches (mm)		
				Outer	Inner	a	b	c	a	b	c
83-1SP	UHF Plug	59	58	Solder	Solder	.750(19.1)	.375(9.5)	.625(15.9)	.689(17.5)	.375(9.5)	.551(14.0)
83-1SP-1050	UHF Plug	59	58	Solder	Solder	.750(19.1)	.375(9.5)	.625(15.9)	.689(17.5)	.375(9.5)	.551(14.0)
83-1SP-15RFX	UHF Plug	59	58	Solder	Solder	.750(19.1)	.375(9.5)	.625(15.9)	.689(17.5)	.375(9.5)	.551(14.0)
83-750	UHF Plug	59	58	Solder	Solder	.750(19.1)	.375(9.5)	.625(15.9)	.689(17.5)	.375(9.5)	.551(14.0)
83-822	UHF Plug	59	58	Solder	Solder	.750(19.1)	.375(9.5)	.625(15.9)	.689(17.5)	.375(9.5)	.551(14.0)



Step 1 Slide coupling ring and adapter onto cable. Cut end of cable even and strip jacket to dimension shown in table.



Step 2 Position adapter flush with end of cable jacket. Fan braid slightly and fold back over body of adapter as shown. Press braid down over body and trim to dimension **b**. Bare conductor to dimension **c** shown in table. Tin exposed center conductor and braid, avoiding excessive heat.



Step 3 Screw plug sub-assembly onto adapter. Solder braid to shell through solder holes, making a good bond between braid and shell. Solder conductor to contact. Do not use excessive heat.



Step 4 For final assembly, screw coupling ring onto plug sub-assembly.

C4 — BRAID CRIMP - SOLDER CENTER CONTACT



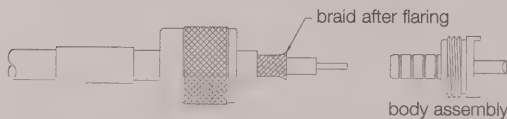
Amphenol Number	Connector Type	Cable RG-/U	Cable Attachment		Hex Crimp Data			Stripping Dims, inches (mm)		
			Outer	Inner	Cavity for Outer Ferrule	Die Set Tool 227-994	CTL Series Tool No.	a	b	c
83-58SP	UHF Plug	58, 141	Crimp	Solder	.213(5.4)	227-1221-11	CTL-1	1.14(29.0)	.782(19.9)	.250(6.4)

Step 1



Step 1 Cut end of cable even. Strip cable to dimensions shown in table. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor. Tin center conductor avoiding excessive heat.

Step 2



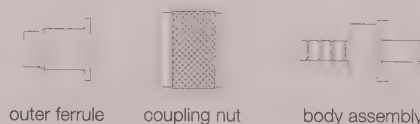
Step 2 Slide coupling nut and ferrule over cable jacket. Flair braid slightly as shown. Install cable into body assembly, so inner ferrule portion slides under braid, until braid butts shoulder. Slide outer ferrule over braid until it butts shoulder. Crimp ferrule with tool and die set indicated in table.

Step 3



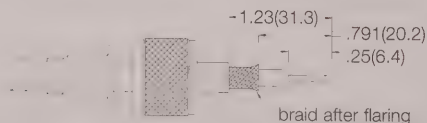
Step 3 Soft solder center conductor to contact. Avoid heating contact excessively to prevent damaging insulator. Slide/screw coupling nut over body.

C5 — UHF CRIMP-CRIMP TYPE-C5



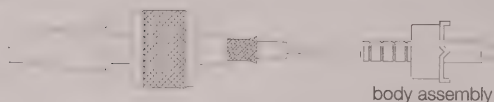
Amphenol Number	Connector Type	Cable RG-/U	Cable Attachment		Hex Crimp Data			Die Set for Tool 227-944
			Outer	Inner	Cavity for Outer ferrule	Cavity for End of Ferrule	Cavity for Center Contact	
83-58DCP-2	UHF Plug	58	Crimp	Crimp	.260(6.60)	.210(5.33)	.052(1.32) sq.	227-1350

Step 1



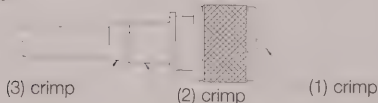
Step 1 Strip cable to dimensions shown. Slide ferrule and coupling nut over cable jacket and flair braid slightly as shown.

Step 2



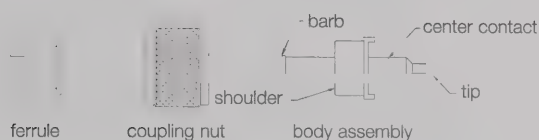
Step 2 Slide body assembly into place so inner ferrule portion slides under braid. Braid must butt back of body. Slide coupling nut forward. Slide ferrule over braid until it butts against body.

Step 3



Step 3 Using tools indicated in table above:
 (1) crimp center contact in cavity **c** .052"(1.3mm)
 (2) crimp outer ferrule to braid in cavity **a** .260"(6.6mm)
 (3) crimp outer ferrule to cable jacket in cavity **b** .210"(5.3mm)

FCP® TERMINATION FOR PLUGS 83-58FCP, 83-58FCP-RFX on RG-58



Amphenol Number	Connector Type	Cable RG-/U	Tools	Stripping Dimensions, inches (mm)		
				a	b	c
83-58FCP	FCP Plug	58	Pliers & Fiber Grommet in Bag	1.00(25.4)	.812(20.6)	.500(12.7)
83-58FCP-RFX	FCP Plug	58	Pliers & Fiber Grommet in Bag	.673(17.0)	.547(14.0)	.236(6.0)

Step 1



braid after flaring

Step 1 Strip cable to dimensions shown in table.

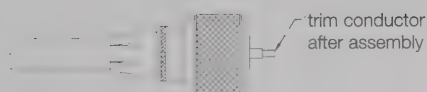
Step 2



braid

Step 2 Slide ferrule and coupling nut over cable. Flair braid slightly. Insert body under flared braid until shoulder is against cable jacket.

Step 3



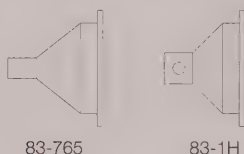
trim conductor after assembly

Step 3 Slide nut onto body. Grasp cable. Push ferrule over barb and up against body. Crimp tip of center contact with pliers, or if you prefer, solder. Then trim center conductor even with end of contact.

HOODS FOR ADAPTING PANEL RECEPTACLES TO COAXIAL CABLES

83-1H (UG-106/U) for RG-8, 10, 11, 12, 63, 79, 115, 149, 213, 215

83-765 (UG-177/U) for RG-58, 141



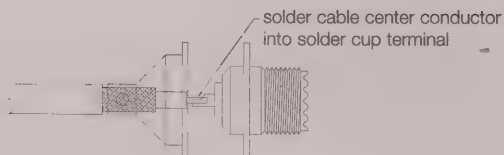
Amphenol Number	Connector Type	Cable RG-/U	Cable Attachment		Stripping Dimensions		
			Outer	Inner	a	b	c
83-1H	Hood	8, 10, 11, 12, 63, 79, 115, 149, 213, 205	Solder	Solder	.625(15.8)	.500(12.7)	.312(7.92)
83-765	Hood	58, 141	Solder	Solder	.750(19.0)	.687(17.4)	.312(7.92)

Step 1



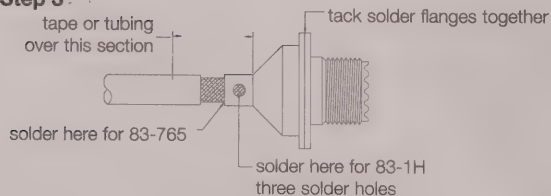
Step 1 Strip cable to dimensions shown. Do not nick center conductor. Tin exposed braid and center conductor.

Step 2



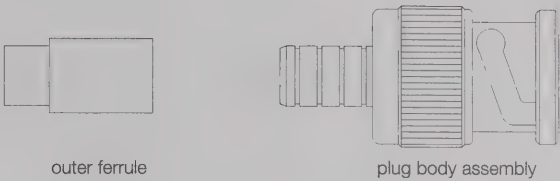
Step 2 Slide hood over braid. When using double-braided cable, hood goes over inner braid only. Then, in step 3, solder outer braid to outside of hood. Solder Center Conductor into solder cup terminal.

Step 3



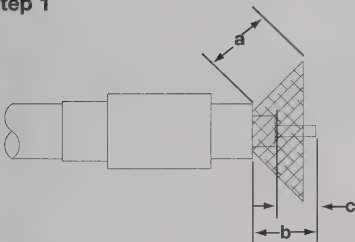
Step 3 Slide hood flush against receptacle and tack-solder hood flange to receptacle flange. Solder hood to braid as shown. Use tape or tubing over section shown.

2-PIECE CRIMP PLUGS



Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data			Stripping Dimensions, inches (mm)			
			Cavity for Outer Ferrule	Die Set for Tool 227-944*	CTL Series Tool Number	a	b	c	d
31-5556-RFX	BNC Plug	59, 62	.324(8.2)	227-1221-32	CTL-2	.437(11.1)	.312(7.9)	.248(6.3)	.125(3.2)
31-5557-RFX	BNC Plug	58	.324(8.2)	227-1221-32	CTL-2	.437(11.1)	.312(7.9)	.248(6.3)	.125(3.2)
31-5560-RFX	BNC Plug	Plenum 59, 62	.324(8.2)	227-1221-32	CTL-2	.437(11.1)	.312(7.9)	.248(6.3)	.125(3.2)

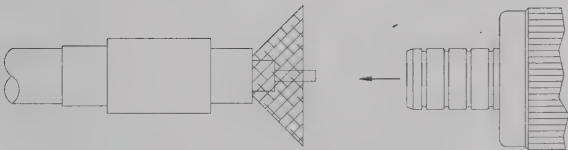
Step 1



Step 1 Strip cable jacket, braid, and dielectric to dimensions in table above. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

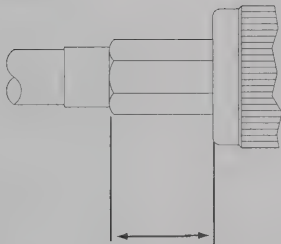
Step 2 Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule of connector. Important: Do not comb out braid.

Step 2

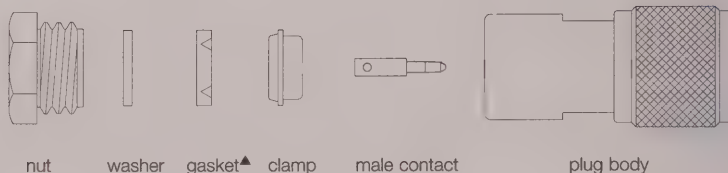


Step 3 Install cable assembly into body assembly so that inner ferrule portion slides under braid. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

Step 3



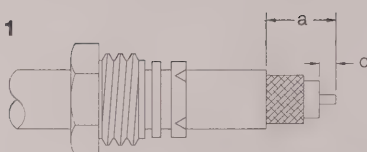
CLAMP TYPES



Amphenol Number	Connector Type	Cable RG-/U	Strip Dims., inches (mm)	
			a	c
18750	N Angle Plug	58, 141, 142	.484(12.3)	.234(5.9)
34025	N Plug	58, 141, 142	.390(9.9)	.203(5.2)
34025-RFX	N Plug	58, 141, 142	.354(9.0)	.177(4.5)
35275	N Bulkhead Jack	55, 58, 141, 142, 223	.561(14.3)	.172(4.4)
36250	N Panel Jack	55, 58, 141, 142, 223	.375(9.5)	.188(4.8)
82-63	N Jack	8, 9, 87A, 144, 165, 213, 214, 216, 225	.281(7.1)	.156(4.0)
82-67	N Bulkhead Jack	8, 9, 87A, 144, 165, 213, 214, 216, 225	.281 (7.1)	.156(4.0)
82-202	N Plug	8, 9, 144, 165, 213, 214, 216, 225	.359(9.1)	.234(6.0)
82-202-1006	N Plug	Belden 9913	.359(9.1)	.234(6.0)
82-202-RFX	N Plug	8, 213, 214	.315(8.0)	.177(4.5)
82-209-1006	N Jack	Belden 9913, Times AA-6146, 8 group	.281(7.1)	.156(4.0)
82-312	N Plug	8, 9, 144, 165, 213	.359(9.1)	.234(5.9)
82-3202	N Plug	8, 9, 144, 165, 213	.270(6.9)	.150(3.8)

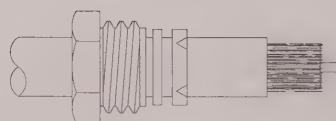
▲ Not supplied with part number 36250

Step 1



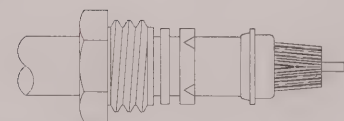
Step 1 Place nut, washer and gasket (with "V" groove toward open end of cable) over cable, and cut off jacket to dim. **a**.

Step 2



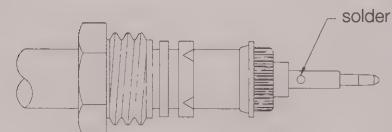
Step 2 Comb out braid and fold out. Bare center conductor to dim. **c** as shown.

Step 3



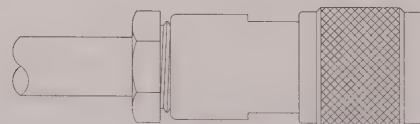
Step 3 Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

Step 4



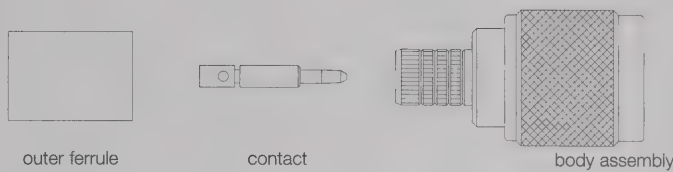
Step 4 Fold back braid wires as shown, trim braid to proper length and form over clamp as shown. Tin center conductor and solder on contact.

Step 5



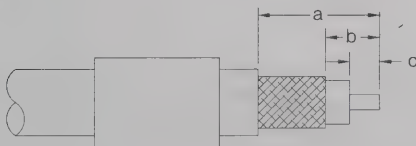
Step 5 Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.

CRIMP-CRIMP TYPES



Amphenol Number	Connector Type	Cable RG-/U	Strip Dimensions, inches (mm)			Hex Crimp Data			
			a	b	c	Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944†	CTL Series Tool No.
82-332	N Plug	9, 214	.531(13.5)	.234(6.0)	.140(3.5)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-340	N Plug	8, 213	.531(13.5)	.234(6.0)	.141(3.6)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-340-1052	N Plug	B9913, 9914	.539(13.7)	.250(6.4)	.158(4.0)	.116(2.9)	.429(10.9)	227-1221-63	CTL-11
82-340-1054	N Plug	TWB4001	.539(13.7)	.250(6.4)	.157(4.0)	.116(2.9)	.429(10.9)	227-1221-63	CTL-11
82-4425	N Plug	9, 214, 225, 393	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4425-1003	N Plug	9, 214, 225, 393	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4426	N Plug	8, 213	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4426-11RFX	N Plug	8, 213, 214 Eth.Cables	.630(16.0)	.303(7.7)	.157(4.0)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4426-1001	N Plug	Ethernet Cables	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4426-1002	N Plug	Ethernet Cables	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4427	N Plug	142, 400	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-4427-1006	N Plug	142, 142B, 400	.600(15.2)	.275(7.0)	.140(3.5)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-4440	N Angle Plug	214, 225, 393	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-4440-1001	N Angle Plug	9, 214, 225, 393	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3
82-5370	N Plug	55, 142, 223	.600(15.2)	.275(7.0)	.140(3.5)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5372	N Panel Jack	55, 141, 142	.600(15.2)	.275(7.0)	.140(3.5)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5373	N Bulk. Jack	55, 142, 223	.640(16.3)	.315(8.0)	.180(4.6)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5374	N Angle Plug	55, 142, 223	.687(17.4)	.281(7.1)	.187(4.7)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5375	N Plug	58, 141	.531(13.5)	.233(5.9)	.140(3.5)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5375-RFX	N Plug	58, 141	.630(16.0)	.303(7.7)	.157(4.0)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5378	N Bulk. Jack	58, 141	.640(16.3)	.273(6.8)	.180(4.6)	.100(2.5)	.213(5.4)	227-1221-57	CTL-3
82-5933	N Bulk. Jack	316	.502(12.7)	.102(2.6)	.062(1.6)	Solder	.178(4.5)	227-1221-09	CTL-2
82-5993	N Plug	TWB6001	.844(21.4)	.344(8.7)	.250(6.4)	.176(4.5)	.612(15.5)	227-1221-6001	—
82-5994	N Bulk. Jack	TWB6001	.844(21.4)	.344(8.7)	.250(6.4)	.176(4.5)	.612(15.5)	227-1221-6001	—
82-5995	N Angle Plug	TWB6001	1.062(27.0)	.562(14.3)	.312(7.9)	Solder	.612(15.5)	227-1221-6001	—

Step 1



Step 1

Strip cable jacket, braid, and dielectric to dimensions shown. All cuts are to be sharp and square.

Important: Do not nick braid, dielectric, and center conductor. Tinning of center conductor is not necessary if contact is to be crimped. For solder method, tin center conductor avoiding excessive heat.

Step 2



Step 2

Slide outer ferrule onto cable as shown. Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **Important:** Do not comb out braid.

Place contact on cable center conductor so it butts against cable dielectric. Center conductor should be visible through inspection hole in contact. Crimp or solder contact in place as follows:

Crimp Method: Use Die Set Cavity for contact indicated in table above.

Solder Method: Soft solder contact to cable center conductor. Do not get any solder on outside surface of contact. Avoid excessive heat to prevent swelling of dielectric.

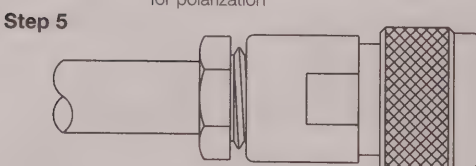
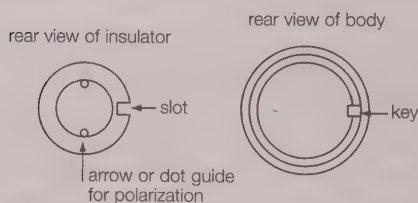
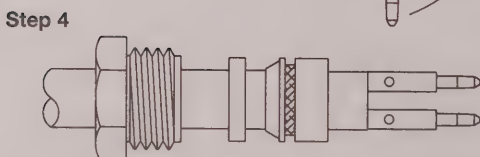
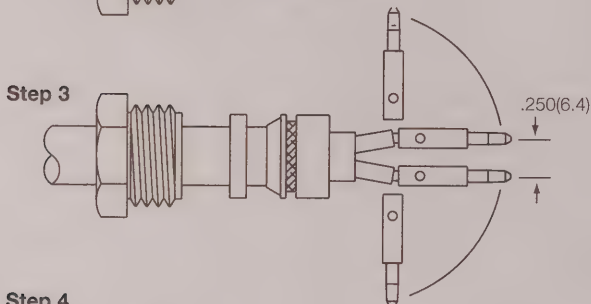
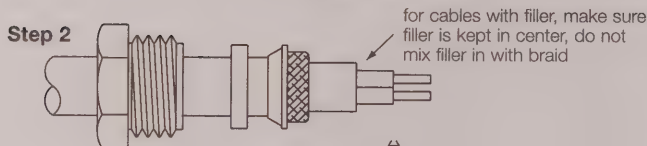
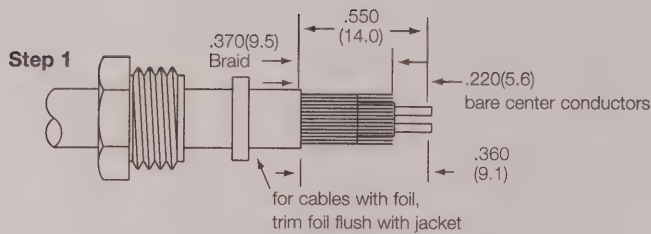
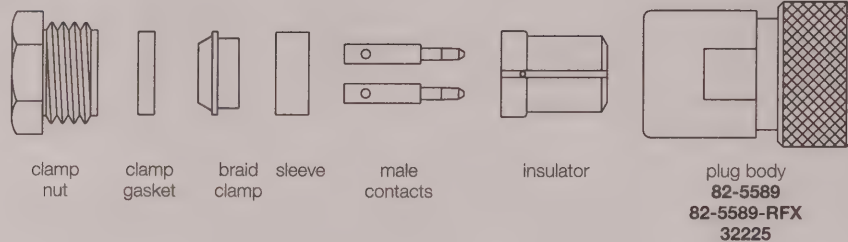
Step 3



Step 3

Install cable assembly into body assembly so inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

CLAMP PLUGS



Step 1 Slide clamp nut and clamp gasket over cable end. V-groove in clamp gasket faces toward connector body. Strip cable to dimensions shown. **Important:** Do not nick insulation around center conductors. For solid core cables, lay braid back out of way while trimming core; then lay braid down again to facilitate Step 2.

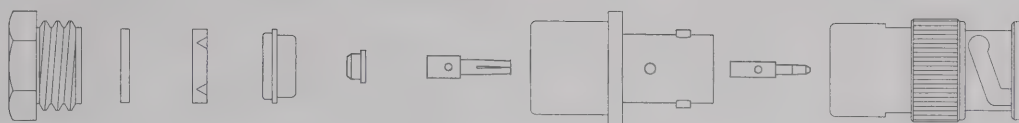
Step 2 Slide braid clamp over braid until inner shoulder butts against jacket. (Note: sharp edge of braid clamp goes toward V-groove in clamp gasket.) Fold braid back evenly over braid clamp as shown.

Step 3 Slide sleeve over cable so that braid bottoms inside sleeve. Solder contacts to conductors, using minimum heat. Remove any excess solder. Alternative method: Crimp center contacts using CTL Series tool number CTL-4 cavities B & C; or by using Die Set 227-1414 cavities B & C in tool frame 227-944 or in Pneumatic Crimp Tool 227-60. Bend conductors and contacts out and back to obtain .250(6.4) spacing between contacts.

Step 4 Insert contacts into rear of insulator. (Note: for Belden 9207 and similar solid core cables, contact on bare copper conductor [or for Belden 8227 and similar air dielectric cables, the contact on white insulated conductor] goes into hole with dot next to it.) Slide insulator to butt against sleeve as shown.

Step 5 Insert assembly into connector body, aligning slot of insulator with polarizing key in body. Tighten clamp nut to 50 lbf-in. (5.7 N·m) torque. Do not twist connector body.

CLAMP CONNECTORS

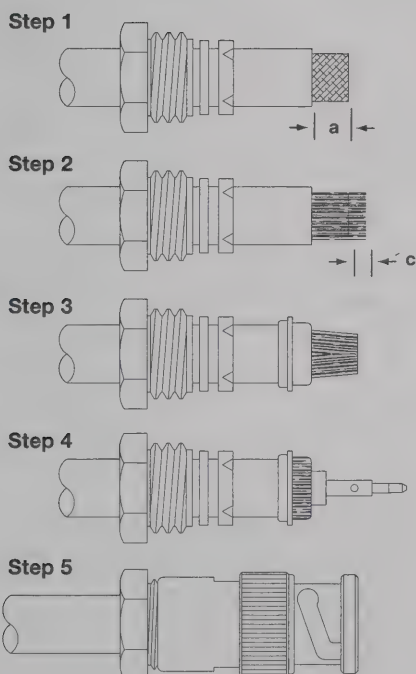


nut washer* gasket clamp bushing‡ female contact jack body male contact plug body

* Not supplied on all items

‡ For use on RG-62, 71, 122, 178, 180, 196, 210

Amphenol Number	Connector Type	Cable RG-/U	Stripping Dims, Inches (Millimeters)	
			a	c
6775	BNC Plug	8, 9, 11, 213, 214	.490(12.4)	.200(5.1)
6775-75	75Ω BNC Plug	11	.490(12.4)	.200(5.1)
8525	BNC Angle Plug	58, 141, 142, 400	.343(8.7)	.187(4.7)
8575	BNC Angle Plug	59, 62, 140, 210	.297(7.5)	.094(2.4)
9350	BNC Plug	6	.405(10.3)	.094(2.4)
15875	BNC Plug	178, 196	.156(3.96)	.078(1.98)
16300	BNC Plug	180	.250(6.4)	.094(2.4)
33275	BNC Angle Plug	174, 179, 187, 188, 316	.540(13.7)	.156(3.96)
69475	BNC Plug	174, 179, 187, 188, 316	.281(7.1)	.172(4.4)
84975	BNC Plug	122	.281(7.1)	.172(4.4)
86350	BNC Bulkhead Jack	174, 179, 187, 188, 316	.265(6.73)	.156(3.96)
86425	BNC Panel Jack	174, 179, 187, 188, 316	.313(7.95)	.203(5.15)
86850	BNC Bulkhead Jack	178, 196	.266(6.75)	.109(2.76)
31-2	BNC Plug	58, 141, 142, 400	.312(7.9)	.094(2.4)
31-2-RFX	BNC Plug	58, 141, 142A	.315(8.0)	.118(3.0)
31-15	BNC Jack	59, 62, 71, 140, 210	.297(7.54)	.109(2.75)
31-202	BNC Plug	55, 58, 141, 142, 223, 400	.274(6.95)	.094(2.4)
31-204	BNC Angle Plug	55, 58, 141, 142, 223, 400	.297(7.54)	.109(2.8)
31-206	BNC Bulkhead Jack	58, 141, 142, 400	.297(7.5)	.109(2.8)
31-207	BNC Bulkhead Jack	59, 62, 71, 140, 210	.297(7.54)	.109(2.75)
31-212	BNC Plug	59, 62, 71, 140, 210, 302	.250(6.4)	.094(2.4)
31-212-1005	BNC Plug	59 (20GA CC)	.250(6.4)	.094(2.4)
31-850	BNC Angle Plug	59, 62, 71, 140, 210	.375(9.52)	.125(3.17)
31-3202	BNC Plug	55, 58, 141, 142, 223, 400	.250(6.4)	.094(2.4)
31-3301	BNC Plug	58, 141, 142, 223	.250(6.4)	.094(2.4)
31-3302	BNC Plug	59, 62, 71, 140, 210	.250(6.4)	.094(2.4)



▲ **For angle plugs only:** (except 31-204) Solder center conductor to preassembled contact. Assemble cap and lightly punch center of cap for retention in body, or solder in place.

Step 1 Place nut, washer (when supplied) and gasket over cable and strip jacket to dimension **a** shown in table above.

Step 2 Comb out braid and fold out. Trim insulation off center conductor to dimension **c** shown in table above. [For RG-62, 71 and 210/U cable, trim an additional .032" (0.8mm) of insulation off center conductor and add bushing.] Tin center conductor.

Step 3 Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

Step 4 Fold back braid wires as shown, trim to proper length [approximately .125" (3.2mm) long] and form over clamp as shown. Braid wire should not extend beyond step of braid clamp. Solder contact to center conductor, sliding bushing first (when supplied) over center conductor. ▲

Step 5 Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut to approximately 15 inch pounds.

Assembly Instructions-C26

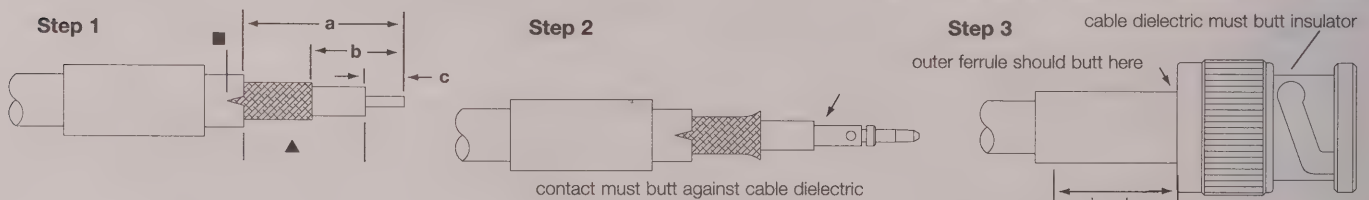
BNC

Amphenol®

3-PIECE CRIMP PLUGS



Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944*	CTL Series Tool Number	a	b	c
36650-1003	BNC Plug	Belden 82907, 88240 89907, Plenum 58	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
36650-3RFX	BNC Plug	Plenum 58	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.630(16.0)	.319(8.1)	.157(4.0)
36875	BNC Plug	55, 142, 223, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
68175-1003	BNC Plug	Belden 9259	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
68175-1005	BNC Plug	59 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
68175-1011	BNC Plug	Belden 1560A, 82259, 89259, Plenum 59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
68175-11RFX	BNC Plug	Plenum 59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
68175-5RFX	BNC Plug	59 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-242	BNC Plug	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-242-RFX	BNC Plug	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-315	BNC Plug	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-315-RFX	BNC Plug	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-315-1005	BNC Plug	Dbl. Br. 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-320	BNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-320-RFX	BNC Plug	58, 141, 142A	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
31-320-1006	BNC Plug	Belden 9907, 89907	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-321	BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-321-RFX	BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
31-321-1000	BNC Plug	Belden 8281, 88281	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-321-10RFX	BNC Plug	Belden 8281	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.630(16.0)	.303(7.7)	.156(4.0)
31-325	BNC Plug	Belden 8218	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-326	BNC Plug	55, 142, 223	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-326-RFX	BNC Plug	55, 142, 223, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-4320	BNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-4321	BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-4411	BNC Plug	Belden 8213	.100(2.5)	.429(10.9)	227-1221-25	CTL-3	.650(16.5)	.250(6.4)	.156(4.0)
31-4427	BNC Plug	142, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5558-RFX	BNC Plug	6 Type (.314OD)	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.630(16.0)	.303(7.7)	.156(4.0)
31-5800	BNC Plug	58, 141, PL-58	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5900	BNC Plug	59, 62, 59 (20GA CC), Plenum -59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)



Step 1 Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, 71, 210/U cable, trim an additional .039"(.1.0mm) of insulation off center conductor and add bushing]. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

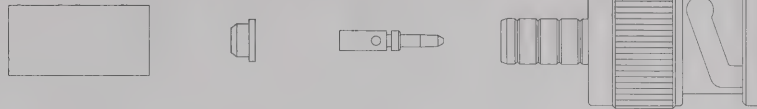
Step 2 Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid ▲. Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above. When using RG-62, 71, 210 cable, install bushing over center conductor before installing contact.

Step 3 Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100"(.25mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve.

* for pneumatic crimp tool 227-60, use die sets indicated in this column.

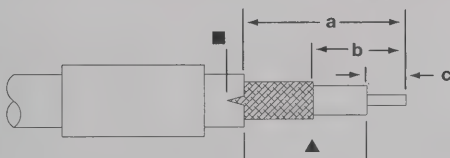
3-PIECE CRIMP ANGLE PLUGS & BULKHEAD JACKS



outer ferrule bushing ♦ male contact plug body assembly
♦ used with RG-62, 71, 210 cable only

Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944*	CTL Series Tool Number	a	b	c
36800	BNC Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
36800-RFX	BNC Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
68150	BNC Jack	59, 62, 140	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
95700	BNC Bulkhead Jack	55, 142, 223	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-245	BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-316	BNC Angle Plug	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.578(14.6)	.328(8.3)	.125(3.1)
31-317	BNC Jack	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-318	BNC Bulkhead Jack	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-318-RFX	BNC Bulkhead Jack	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.630(16.0)	.362(9.2)	.156(4.0)
31-318-1001	BNC Bulkhead Jack	DbI. Br. 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-245-RFX	BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.630(16.0)	.362(9.2)	.156(4.0)
31-334	BNC Angle Plug	55, 142, 223, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.578(14.6)	.328(8.3)	.125(3.1)
31-335	BNC Angle Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-335-RFX	BNC Angle Plug	58, 144	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.677(17.2)	.350(8.9)	.156(4.0)
31-336	BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-336-RFX	BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.677(17.2)	.350(8.9)	.156(4.0)
31-342	BNC Bulkhead Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-342-RFX	BNC Bulkhead Jack	58, 141, 142, 223	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-343-1002	BNC Bulkhead Jack	Pl. 59 (20 AWG)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-343-RFX	BNC Bulkhead Jack	59, 62, 140, 210	.068(1.7)	.255(6.5)	227-1221-11	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-4327	BNC Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)

Step 1

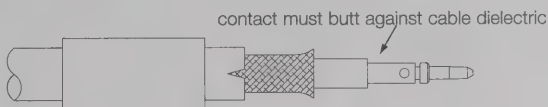


■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100" (2.5mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve.

Step 1

Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, 71, 210/U cable, trim an additional .039" (1.0mm) of insulation off center conductor and add bushing] All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

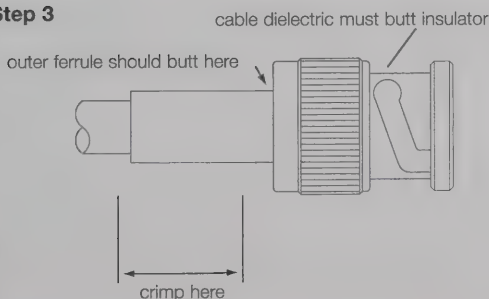
Step 2



Step 2

Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid ▲. Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above. When using RG-62, 71, 210 cable, install bushing onto center conductor before installing contact.

Step 3



Step 3

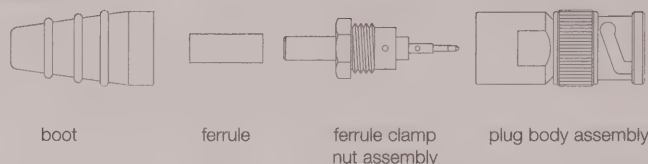
Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

* for pneumatic crimp tool 227-60, use die sets indicated in this column

Assembly Instructions-C26b BNC

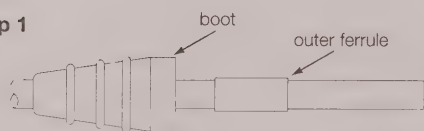
Amphenol®

ORIGINAL CRIMP PLUGS



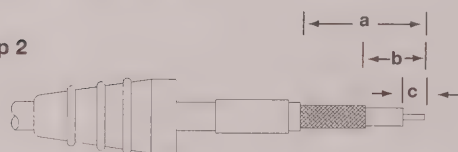
Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data			Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944*	a	b	c
31-351	BNC Plug	58, 141	—	.213(5.4)	227-1221-11	.922(23.4)	.516(13.1)	.250(6.3)
31-359	BNC Plug	59, 62, 140	—	.255(6.5)	227-1221-13	.922(23.4)	.516(13.1)	.250(6.3)
31-371	BNC Plug	174, 179, 187, 188, 316	—	.128(3.2)	227-1221-3	.797(20.2)	.516(13.1)	.250(6.3)

Step 1



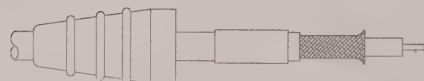
Step 1 Install boot and slide outer ferrule onto cable as shown prior to stripping cable.

Step 2



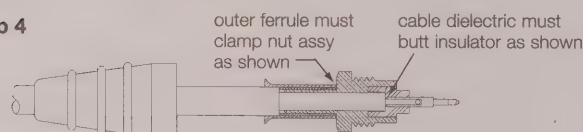
Step 2 Strip cable jacket, braid and dielectric to dimensions shown. See attached table for dimensions. All cuts are to be sharp and square. Important: DO NOT nick braid, dielectric, and center conductor when cutting. Tin center conductor using soft solder per QQ-S-571 comp Sn 60. Avoid excessive heat while tinning to prevent swelling of cable dielectric.

Step 3



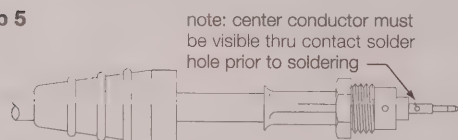
Step 3 Slightly flare out end of cable braid as so as to facilitate insertion onto ferrule clamp nut assembly. Important: DO NOT comb out braid.

Step 4



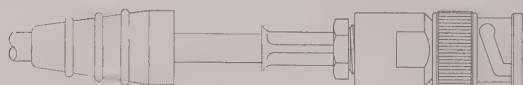
Step 4 Install ferrule clamp nut assembly onto cable so that ferrule portion slides under braid and insulator butts flush against cable dielectric. Slide outer ferrule over braid and up against nut. Make sure no slack exists in braid. Crimp outer ferrule with tool specified in table above, keeping cable dielectric bottomed against insulator.

Step 5



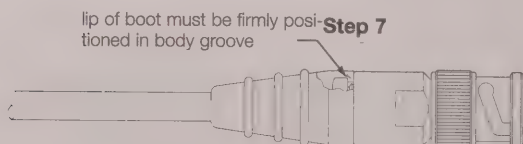
Step 5 Soft solder center conductor to contact using rosin core per QQ-S-571 comp Sn 60. DO NOT get any solder on outside surfaces of contact.

Step 6



Step 6 Screw connector body onto prepared cable termination. Wrench tighten by holding the cable nut assembly STATIONARY while ROTATING the connector body.

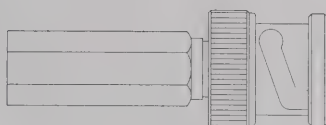
Step 7



Step 7 Push body forward and into position as shown to complete assembly.

* for pneumatic crimp tool 227-60, use die sets indicated in this column

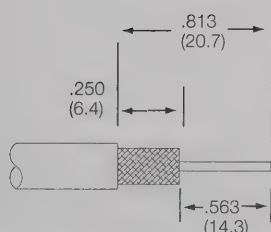
SURETWIST® PLUG



BNC SURETWIST® plug

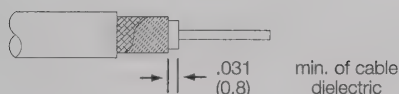
Amphenol Number	Connector Type	Cable RG-/U
31-5136	BNC Plug	59
31-5136-RFX	BNC Plug	59
31-5137	BNC Plug	58
31-5137-RFX	BNC Plug	58

Step 1



Step 1 Strip cable as shown. Take care not to nick center conductor or outer braid.

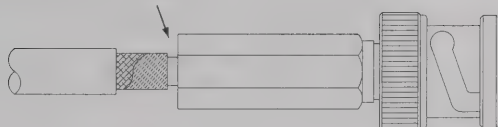
Step 2



Step 2 Twist outer braid in a clockwise direction so that at least 1/32" of cable dielectric is bared, and braid is left flat. (Stray or loose braid can cause shorts.)

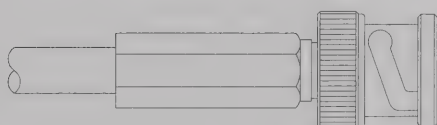
Step 3

Back end of connector and cable dielectric flush, center conductor in place



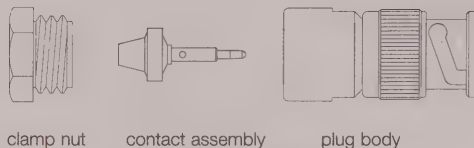
Step 3 Gently insert center conductor into back end of connector, "feeling" it into the guide hole. (If center conductor is NOT properly in place, about 1/8" of center conductor will show at the back end. Reinsert until cable dielectric reaches position shown in illustration.)

Step 4

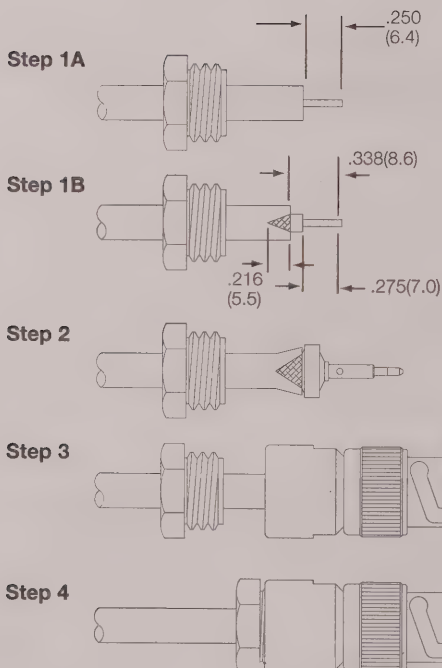


Step 4 Push the cable firmly home (as far as possible). Then screw the connector onto the cable in a clockwise direction until it stops. Assembly is complete.

QUICKTRIM® PLUG



Amphenol Number	Connector Type	Cable RG-/U	Center Contact Affixment		
			Hex Size	Die Set for Tool 227-944*	CTL Series Tool Number
31-4541	BNC Plug	59, 59A, 62, 62A	.068(1.7)	227-1221-13 Cavity B	CTL-1
31-4541-RFX					
31-4542	BNC Plug	Belden 9268 Montrose CBL-5098			
31-30220-1	BNC Plug	58			
31-30220-8	BNC Plug	223			



Step 1A For all connectors except 31-4541-RFX (see step 1B). Slide clamp nut over cable. Strip cable to dimension shown. Cut braid and dielectric square. Do not nick center conductor.

Step 1B For **31-4541-RFX**. Same as step 1A except use Step 1B strip dimensions, and then slit jacket back .125" (3.2 mm) in four places 90° apart as shown in illustration.

Step 2 Slide contact assembly under braid and jacket until braid butts as shown. Use caution that braid slides over contact assembly and not inside of it. Be sure center conductor is visible through side hole of contact. Solder contact to center conductor. Contact may be crimped on applicable connectors using Amphenol CTL-1 crimp tool; or by using die set 227-1221-13 cavity B in tool frame 227-944 or equivalent tool.

Step 3 Insert into connector body.

Step 4 Tighten clamp nut to a torque of 35 lbf-in.

* for pneumatic crimp tool 227-60, use die sets indicated in this column

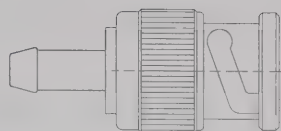
PLUGS FCP TERMINATION



outer ferrule



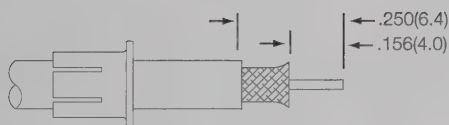
center
contact



plug body assembly

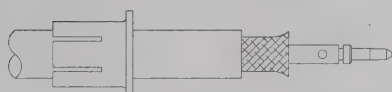
Amphenol Number	Connector Type	Cable RG-/U
31-4700	BNC Plug	58, 141
31-4702	BNC Plug	59

Step 1



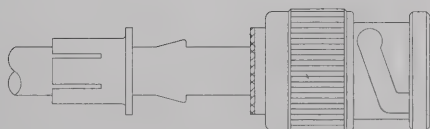
Step 1 Slide ferrule over cable end, slotted end first. Strip cable to dimensions shown. Do not nick center conductor. Flare braid slightly as shown.

Step 2



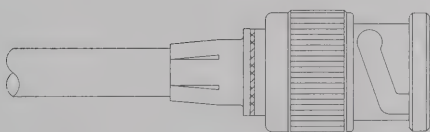
Step 2 Tin exposed center conductor. Solder center contact on center conductor. Use minimum heat to avoid damaging cable insulation. Remove any excess solder and flux from contact surface. Contact may be crimped using 227-1221-11 die set (cavity B) .068 hex in tool handle 227-944 or equivalent tool.

Step 3



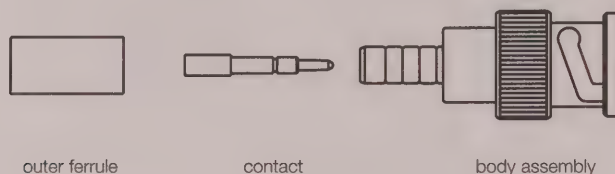
Step 3 Slide body over contact and cable insulation with barb going UNDER flared braid. Push body until shoulder is against cable jacket. Braid will flare out against body shoulder.

Step 4



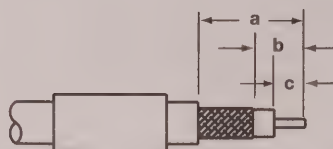
Step 4 Grasp cable with hand and push ferrule over barb until braid is captured between ferrule and body flange. Assembly is complete.

CRIMP TERMINATION FOR TYPE 1 – 75Ω CONNECTORS



Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data			Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	CTL Series Tool No.	a	b	c
31-70000	75Ω BNC Plug	6, Belden 9248, Plenum 6	.052(1.3) sq.	.324(8.2)	CTL-8	.577(14.7)	.234(5.9)	.140(3.6)
31-70000-1000	75Ω BNC Plug	6, Belden 9248	.052(1.3) sq.	.324(8.2)	CTL-8	.577(14.7)	.234(5.9)	.140(3.6)
31-70008	75Ω BNC Plug	59	.052(1.3) sq.	.255(6.5)	CTL-6 or 8	.577(14.7)	.234(5.9)	.140(3.6)
31-70008-1000	75Ω BNC Plug	59 (20GA CC)	.052(1.3) sq.	.255(6.5)	CTL-6 or 8	.577(14.7)	.234(5.9)	.140(3.6)
31-70008-3000	75Ω BNC Plug	59 (.032 CC)	.052(1.3) sq.	.255(6.5)	CTL-6 or 8	.577(14.7)	.234(5.9)	.140(3.6)
31-70009	75Ω BNC Jack	59	.052(1.3) sq.	.255(6.5)	CTL-6 or 8	.557(14.1)	.214(5.4)	.156(4.0)
31-70013	75Ω BNC Plug	179, 187	.052(1.3) sq.	.178(4.5)	CTL-6	.577(14.7)	.234(5.9)	.140(3.6)
31-70013-1000	75Ω BNC Plug	Dbl. Br. 179, ATT19224-L2	.052(1.3) sq.	.178(4.5)	CTL-6	.594(15.1)	.250(6.4)	.156(4.0)
31-70015-1000	75Ω BNC Angle Plug	Dbl. Br. 179, ATT19224-L2	.052(1.3) sq.	.178(4.5)	CTL-6	.649(16.5)	.435(11.0)	.125(3.2)
31-70016	75Ω BNC Jack	179, 187	.052(1.3) sq.	.178(4.5)	CTL-6	.886(22.5)	.451(11.4)	.140(3.6)
31-70016-1000	75Ω BNC Bulkhead Jack	Dbl. Br. 179, ATT19224-L2	.052(1.3) sq.	.178(4.5)	CTL-6	.886(22.5)	.451(11.4)	.140(3.6)
31-70022	75Ω BNC Plug	ATT 728B, Belden 9231	.068(1.7) hex	.324(8.2)	CTL-8	.579(15.1)	.125(3.2)	.125(3.2)
31-70082	75Ω BNC Angle Plug	ATT 735A	Solder Only	.160(4.1)	▲	.635(16.1)	.385(9.8)	.200(5.1)
31-70222	75Ω BNC Plug	Belden 8281, 9231	.052(1.3) sq.	.324(8.2)	CTL- 8	.577(14.7)	.234(5.9)	.140(3.6)

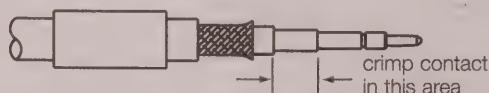
Step 1



■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100" (2.5mm) as shown. Before attaching center contact, slide TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve.

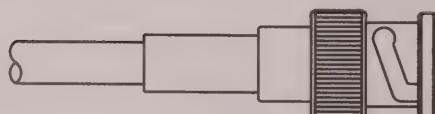
Step 1 Slide outer ferrule over cables shown. Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **IMPORTANT:** Do not comb out braid.

Step 2



Step 2 Place contact onto center conductor so it butts against cable dielectric. Crimp contact in place.

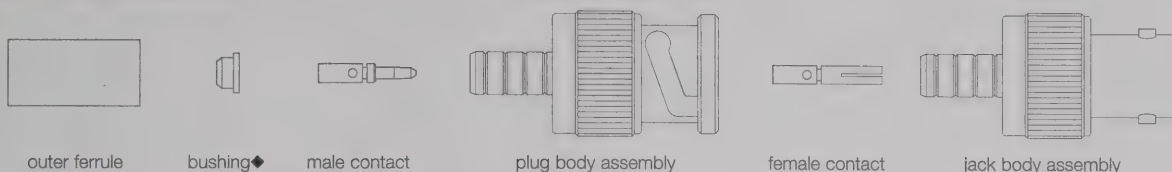
Step 3



Step 3 Install cable assembly into body assembly so inner ferrule slides over sleeve and under braid. Push cable assembly forward until contact seats in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule.

▲ use die set 227-1448 with tool frame 227-944

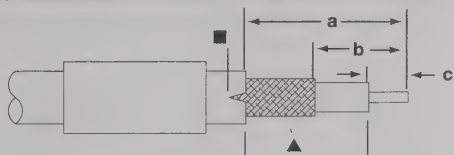
CRIMP TERMINATION FOR TYPE 2 – 75Ω CONNECTORS



♦ for use on RG-62, 71, 210 cable only

Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944*	CTL Series Tool No.	a	b	c
31-71000-RFX	75Ω BNC Plug	6	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71008	75Ω BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71008-RFX	75Ω BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
31-71008-1RFX	75Ω BNC Plug	59 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
31-71008-1000	75Ω BNC Plug	59, 62 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71008-2000	75Ω BNC Plug	Plenum -59, B89269	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71010	75Ω BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-71010-RFX	75Ω BNC Plug	59	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.677(17.2)	.350(9.0)	.156(4.0)
		62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.677(17.2)	.350(9.0)	.197(5.0)
31-71011	75Ω BNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71011-RFX	75Ω BNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-71013	75Ω BNC Plug	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.539(15.1)	.250(6.4)	.156(4.0)
31-71013-RFX	75Ω BNC Plug	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-71013-1000	75Ω BNC Plug	Dbl. Br. RG-179	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71014-RFX	75Ω BNC Jack	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.571(14.5)	.303(7.7)	.157(4.0)
31-71016	75Ω BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71016-RFX	75Ω BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.630(16.0)	.362(9.2)	.157(4.0)
31-71032	75Ω BNC Plug	B8281, 88281	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71033	75Ω BNC Plug	B8218	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71034	75Ω BNC Plug	Belden 89292	.100(2.5)	.429(10.9)	227-1221-25	CTL-3	.593(16.7)	.250(6.4)	.156(4.0)
31-71035	75Ω BNC Plug	PL-59 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71064	75Ω BNC Plug	Belden 9248, PI-6	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71065	75Ω BNC Plug	Belden 9290	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71066	75Ω BNC Plug	Quad Shield 59	.068(1.7)	.263(6.7)	227-1221-15	—	.593(15.1)	.250(6.4)	.156(4.0)

Step 1

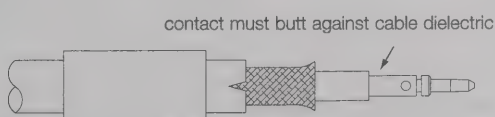


■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100" (2.5mm) as shown. Before attaching center contact TFE sleeve (not shown) over cable dielectric and under braid. For 31-71016, before attaching center contact. Slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve.

Step 1

Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, 71, 210/U cable, trim an additional .039" (1.0mm) of insulation off center conductor and add bushing] All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

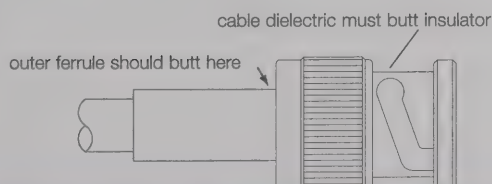
Step 2



Step 2

Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above. When using RG-62, 71, 210, install bushing over center conductor before installing contact.

Step 3



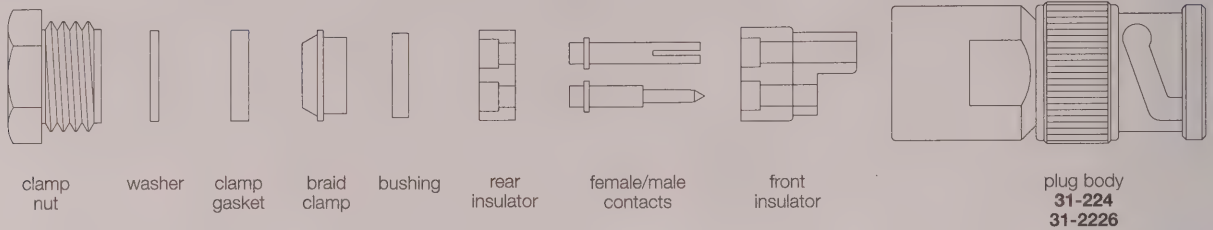
Step 3

Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

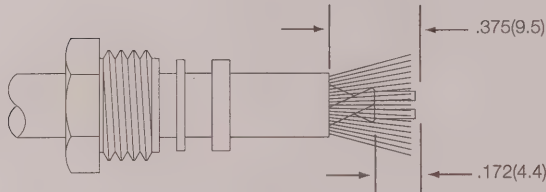
* for pneumatic crimp tool 227-60, use die sets indicated in this column

Twin BNC

CLAMP PLUGS

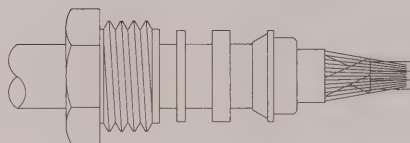


Step 1



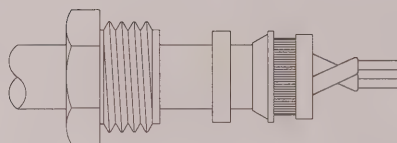
Step 1 Cut end of cable sharp and square. Slide clamp nut, washer and clamp gasket over jacket. Strip jacket to dimension shown. Comb out braid and fold out. Bare conductors to dimension shown.

Step 2



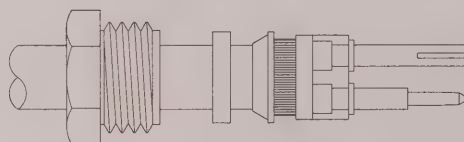
Step 2 Pull braid forward and taper toward conductors. Slide braid clamp over braid as shown and push against cable jacket.

Step 3



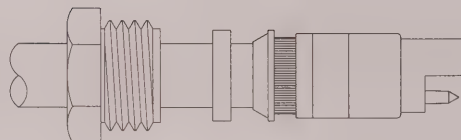
Step 3 Fold back braid, trim to proper length so no braid strands extend beyond shoulder of braid clamp and evenly form over braid clamp as shown. Slide on bushing. Tin center conductors using minimum amount of heat.

Step 4



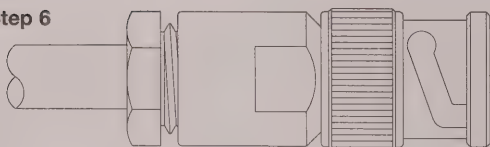
Step 4 Bend connectors out as necessary for alignment and slide on rear insulator. Solder contacts. Remove any excess solder from contact O.D.

Step 5



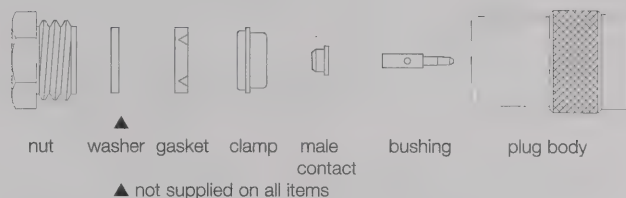
Step 5 Slide front insulator over contacts and butt against contact shoulders as shown.

Step 6



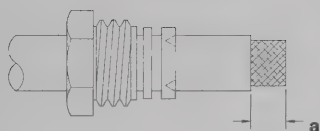
Step 6 Insert prepared cable termination into connector body. Make sure sharp edge of braid clamp seats properly in V-groove clamp gasket. Tighten securely, turning nut only. Do not twist connector body.

CLAMP TYPES



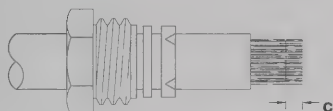
Amphenol Number	Conn. Type	Cable	Stripping Dimensions, In.(mm)	
			a	c
79075	TNC Angle Plug	RG-58	.281(7.1)	.109(2.8)
79875	TNC Plug	RG-58	.281(7.1)	.109(2.8)

Step 1



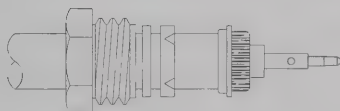
Step 1 Place nut, washer (when supplied) and gasket over cable and strip jacket to dimension **a** shown in table above.

Step 2



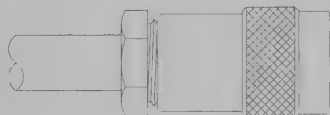
Step 2 Comb out braid and fold out. Trim insulation off center conductor to dimension **c** shown in table above. Tin center conductor. Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

Step 3



Step 3 Fold back braid wires as shown, trim to proper length [.125" (3.2mm)] and form over clamp as shown. Solder contact to center conductor.

Step 4



Step 4 Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.

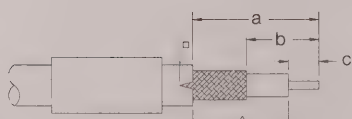
CRIMP-CRIMP TYPES



◆ This part is used only with RG-62 cable

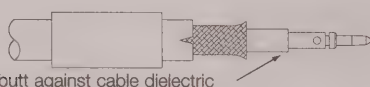
Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool No.	a	b	c
36825	TNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2318	TNC Bulk. Jack	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-2367	TNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2367-RFX	TNC Plug	58, 141, 142A	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.630(16.0)	.303(7.7)	.156(4.0)
31-2368	TNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2373	TNC Plug	55, 142, 223	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2381	TNC Angle Plug	55, 142, 223, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-4452	TNC Plug	142, 400	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)

Step 1



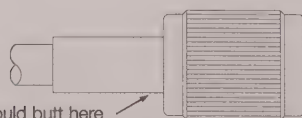
■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100"(2.5mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric. The center contact should butt against the dielectric and TFE sleeve.

Step 2



contact must butt against cable dielectric

Step 3



outer ferrule should butt here

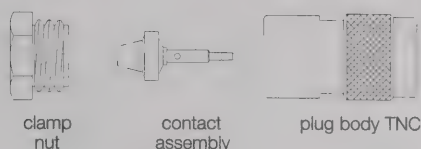
cable dielectric must butt insulator

Step 1 Strip cable jacket, braid, and dielectric to dimensions in table above. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

Step 2 Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above.

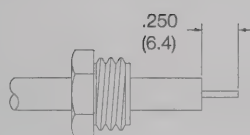
Step 3 Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity in table above.

QUICKTRIM® PLUG



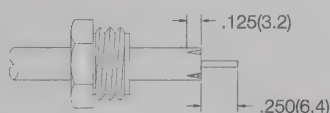
Amphenol Number	Cable RG-/U	Center Contact Affixment		
		Hex Size	Die Set for Tool 227-944	CTL Series Tool Number
31-5061	59, 59A, 62, 62A	.068(1.7)	227-1221-13 Cavity B	CTL-1

Step 1A



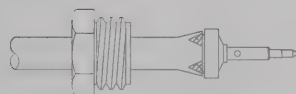
Step 1A For all cables listed, except Plenum 62. Slide clamp nut over cable. Strip cable to dimension shown. Cut braid and dielectric square. Do not nick center conductor.

Step 1B



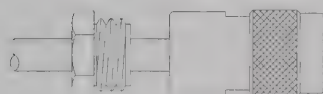
Step 1B For Plenum 62 (IBM 4885584). Same as step 1A, and then slit jacket back .125"(3.2 mm) in four places 90° apart as shown in illustration.

Step 2



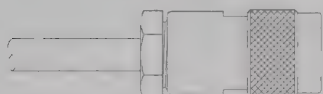
Step 2 Slide contact assembly under braid and jacket until braid butts as shown. Use caution that braid slides over contact assembly and not inside of it. Be sure center conductor is visible through side hole of contact. Crimp contact to conductor using Amphenol CTL-1 crimp tool; or by using die set 227-1221-13 cavity B in tool frame 227-944.

Step 3



Step 3 Insert into connector body.

Step 4



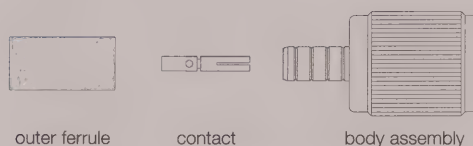
Step 4 Tighten clamp nut to a torque of 35 lbf-in.

Assembly Instructions-C38

RP-BNC, RP-TNC

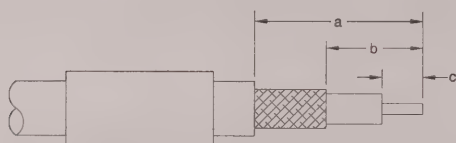
Amphenol®

Crimp Types

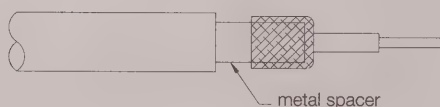


Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool No.	a	b	c
31-5677	RP-TNC Plug w/ socket contact	58	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5677-1000	RP-TNC Plug w/ socket contact	142	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5678	RP-TNC Jack w/ pin contact	58	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5679	RP-TNC Plug w/ socket contact	Belden 9913	.116(2.9)	.429(10.9)	227-1221-61	—	.688(17.5)	cut for b & c	.188(4.8)
31-5680	RP-TNC Ang. Plug w/ socket contact	Belden 9913	.116(2.9)	.429(10.9)	227-1221-61	—	.812(20.6)	.376(9.6)	.188(4.8)
31-5684	RP-TNC Jack w/ pin contact	Belden 9913	.116(2.9)	.429(10.9)	227-1221-61	—	.688(17.5)	cut for b & c	.188(4.8)
31-5685	RP-TNC Panel Jack w/ pin contact	178	.068(1.7)	.151(3.8)	227-1221-62	—	.531(13.5)	cut for b & c	.156(4.0)
31-5686	RP-TNC Blkh. Jack w/ pin contact	178	.068(1.7)	.151(3.8)	227-1221-62	—	.812(20.6)	.437(11.1)	.156(4.0)
31-5687	RP-TNC Blkh. Jack w/ pin contact	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.812(20.6)	.469(11.9)	.156(4.0)
31-5705	RP-BNC Plug w/ socket contact	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-5787	RP-BNC Blkh. Jack w/ pin contact	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-9	CTL-2	.670(17.0)	.500(12.7)	.220(5.6)

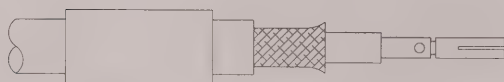
Step 1



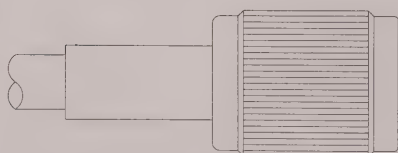
Step 1a



Step 2



Step 3



Step 1 Strip cable jacket, braid, and dielectric to dimensions in table above. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

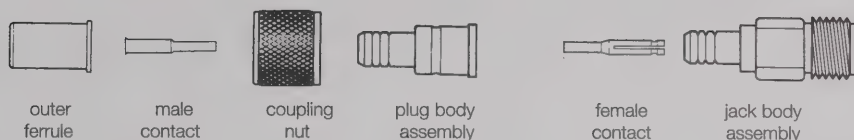
Step 1a For 31-5685 & 31-5686 only, slide metal spacer over exposed braid until it butts against cable jacket. Fold braid back over spacer, making sure to smooth out braid over spacer. Slide TFE sleeve over end of cable dielectric, positioning it flush with end of dielectric.

Step 2 For all P/Ns place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity in table above. For all P/Ns except 31-5685 & 31-5686, flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid.

Step 3 For all P/Ns except 31-5685 & 31-5686, install cable assembly into body assembly so that ferrule on body slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide crimp ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity in table above.

Step 3a For 31-5685 & 31-5686, slide cable assembly into body until it clicks into place. Crimp on the end of the body using Die Set cavity in table above.

CRIMP-CRIMP TYPE



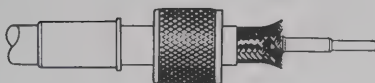
Number	Connector Type	Cable RG-/U	Amphenol inches (mm)		Strip Dimensions, Crimp Data			
			a	c	Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool Number
81-114	Mini-UHF Plug	B 9258	.656(16.7)	.281(7.1)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1, -5, -6
81-115BK-1000	Mini-UHF Plug	58	.593(15.1)	.218(5.5)	.052(1.3) Sq.	.213(5.4)	227-1409	CTL-5
81-115N-1000	Mini-UHF Plug	58	.593(15.1)	.218(5.5)	.052(1.3) Sq.	.213(5.4)	227-1409	CTL-5
81-116	Mini-UHF Jack	58	.500(12.7)	.219(5.5)	.052(1.3) Sq.	.213(5.4)	227-1409	CTL-5

Step 1



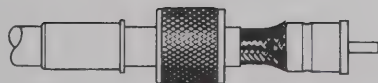
Step 1 Strip cable to dimensions shown in table. All cuts are to be sharp and square. **Important:** do not nick braid, dielectric, or center conductor.

Step 2



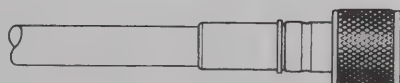
Step 2 Slide outer ferrule onto cable as shown. (For straight plugs, slide coupling nut onto cable, keeping the open end of the nut toward the stripped end of the cable.) Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **Important:** Do not comb out braid. Place contact on cable center conductor so it butts against cable dielectric. Crimp contact in place using Tool Handle and Die Set Cavity shown in Table above.

Step 3



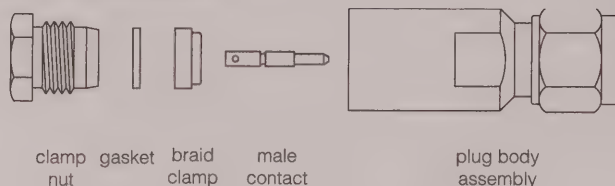
Step 3 Install cable assembly into body assembly so inner ferrule portion slides under braid. Push cable assembly forward until cable dielectric seats against connector insulator.

Step 4



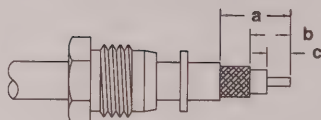
Step 4 (For straight plugs, slide coupling nut forward over body assembly as shown.) Slide outer ferrule over braid and up against connector body, holding connector body firmly in place. Crimp outer ferrule using Tool Handle and Die Set Cavity shown in table above.

CLAMP TYPE FOR FLEXIBLE CABLES



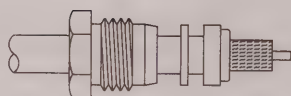
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)		
			a	b	c
901-103	SMA Plug	55, 58, 141, 142, 223	.265(7)	.140(3.5)	.094(2.5)

Step 1



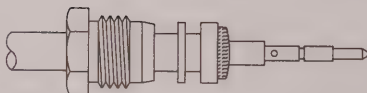
Step 1 Place nut and gasket over cable. Strip cable to dimensions shown in cable. Comb out braid.

Step 2



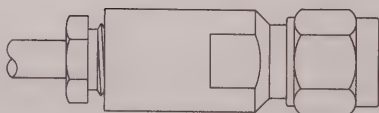
Step 2 Place braid clamp over braid and push back against cable jacket. Fold back wires, trim as necessary so that wires do not touch shoulder of clamp. Cuts must be square. Do not nick center conductor.

Step 3



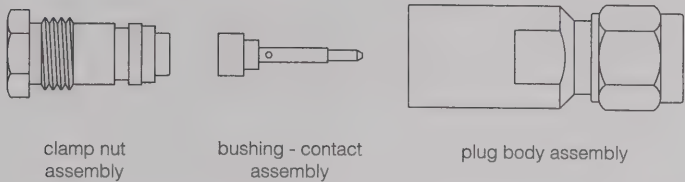
Step 3 Solder center contact to cable (SN60-40 rosin core solder recommended). Center contact must seat square against dielectric. Avoid excessive heat which may distort dielectric.

Step 4

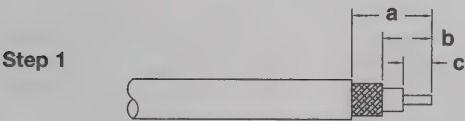


Step 4 Thread connector assembly onto prepared cable assembly. Tighten to 20-25 in/lbs torque.

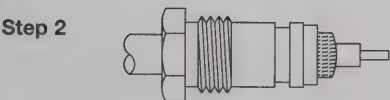
MODIFIED CLAMP TYPE FOR FLEXIBLE CABLES



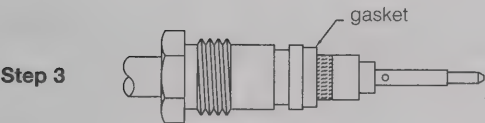
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)		
			a	b	c
901-128	SMA Plug	174, 316	.328(14)	—	.125(3.2)



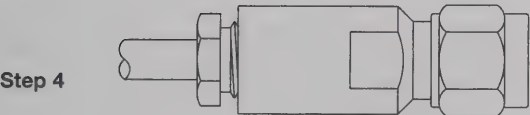
Step 1 Strip cable to dimensions shown in table. Cut must be square. Do not nick center conductor. Comb out braid.



Step 2 Place clamp assembly over braid and push back against cable jacket. Fold back braid wires, trim as necessary so that wires do not touch shoulder of gasket.

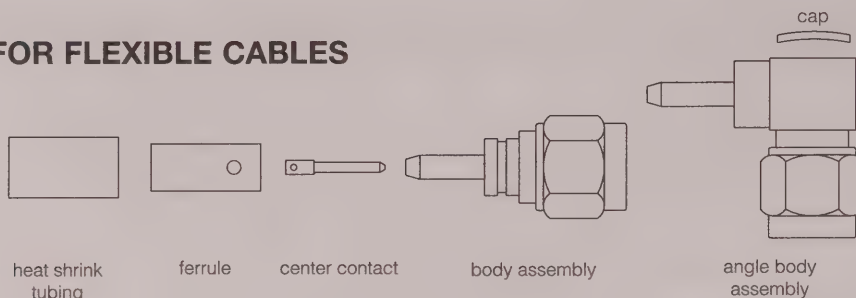


Step 3 (For angle connectors, skip to next step.) Assemble bushing assembly and solder center contact to cable (SN60-40 rosin core solder recommended.)



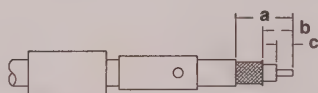
Step 4 Thread connector assembly onto prepared cable assembly. Tighten to 20-25 in/lbs torque. For angle connectors, solder center conductor and cap in place.

SOLDER TYPE FOR FLEXIBLE CABLES



Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)		
			a	b	c
901-9501-3	SMA Plug	174, 179, 187, 188, 316	.440(11.2)	.130(3.3)	.090(2.3)
901-9521-3	SMA Angle Plug	174, 179, 187, 188, 316	.437(11.1)	.197(5.0)	.090(2.3)

Step 1



Straight connectors:

Step 2

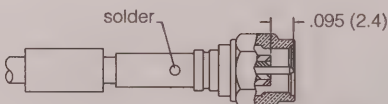


Step 3

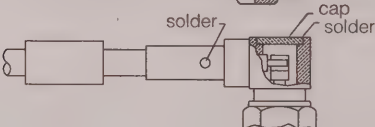


Angle connectors:

Step 2



Step 3



Step 1 Slide shrink tubing and ferrule up on cable as shown. Strip cable to dimensions shown in table. Flare cable braid.

Straight connectors:

Step 2 Solder center contact to cable center conductor as shown. Remove excess solder.

Note: Contact must bottom against cable dielectric.

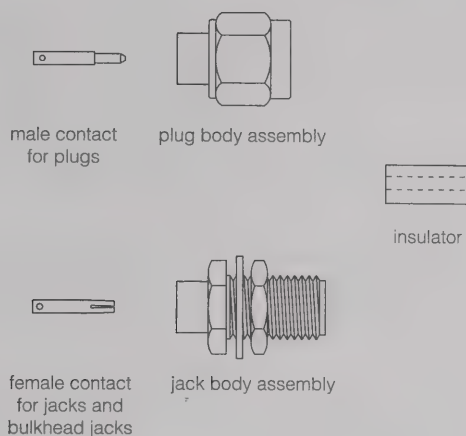
Step 3 Install coupling nut and body assembly as shown. Press ferrule against body and solder. Place heat shrink tubing over body and apply heat.

Angle connectors:

Step 2 Place cable dielectric into body and press ferrule against body as shown. Solder center conductor to contact as shown.

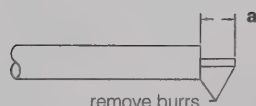
Step 3 Bottom ferrule against body and solder as shown. Place cap into position and also solder as shown. Place heat shrink tubing over body and apply heat.

SOLDER TO BODY/PRESSFIT INSULATOR FOR SEMI-RIGID CABLE



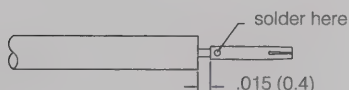
Amphenol Number	Connector Type	Cable S/R	Dim a
901-9201-2A	SMA Plug	.085(2.2)	.125(3.2)
901-9202-1A	SMA Jack	.141(3.6)	.125(3.2)
901-9202-2A	SMA Jack	.085(2.2)	.125(3.2)
901-9210-1	SMA Bulkhead Jack	.141(3.6)	.125(3.2)
901-9210-2	SMA Bulkhead Jack	.085(2.2)	.125(3.2)
901-9867-RFX	SMA Plug	.085(2.2)	.098(2.5)
901-9868-RFX	SMA Plug	.141(3.6)	.098(2.5)

Step 1



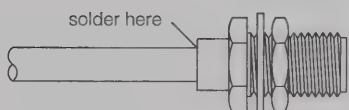
Step 1 Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from jacket and center conductor.

Step 2



Step 2 Solder contact to center conductor. Use .015"(.4mm) shim to accurately maintain space between jacket, dielectric and contact. Remove all excess solder.

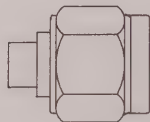
Step 3a,b



Step 3a Assemble cable and contact into connector body. Cable jacket and dielectric to be flush with shoulder of body as shown. Solder cable to connector body. Avoid excessive heat which may distort dielectric.

Step 3b Press fit insulator into connector body. Bottom insulator in connector body as shown.

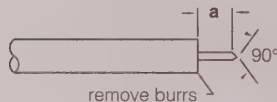
SOLDER TO BODY/PRE-ASSEMBLED CENTER CONTACT FOR SEMI-RIGID CABLE



connector as shipped
(contains pre-assembled center contact)

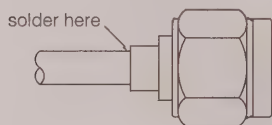
Amphenol Number	Connector Type	Cable S/R	Dim
			a
901-9723	SMA Plug	.085(2.2)	.125(3.2)
901-9723-10	SMA Plug	.085(2.2)	.125(3.2)
901-9805-HP	SMA Plug	.085(2.2)	.125(3.2)
901-9808	SMA Plug	.141(3.6)	.125(3.2)

Step 1



Step 1 Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from cable jacket. File blunt end of center conductor to a 90° cone.

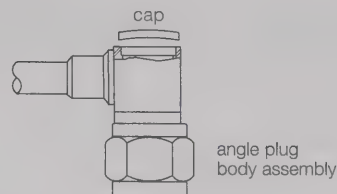
Step 2



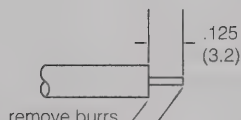
Step 2 Assemble cable into connector body. Make sure center conductor is straight. Use care in pushing center conductor into spring contact. Make sure jacket bottoms in connector. Maintain end pressure while soldering. Avoid excessive heat which may distort dielectric.

SOLDER TO BODY SMA ANGLE PLUGS

901-9221-1A, -1ASF for .141" S/R; 901-9221-2A, -2ASF for .085" S/R



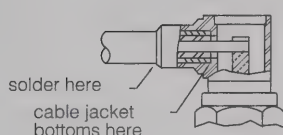
Step 1



Step 1

Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from cable jacket and center conductor.

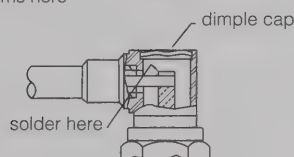
Step 2



Step 2

Assemble cable into connector body. Bottom cable in connector body as shown. Solder cable to connector body as shown.

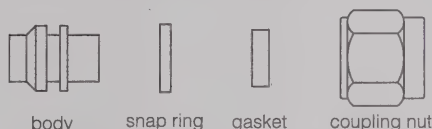
Step 3



Step 3

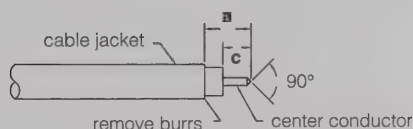
Solder center conductor to contact as shown. Remove excess solder. Assemble cap and solder or lightly punch center of cap for retention in body.

C50-SOLDER TO BODY TYPES FOR SEMI-RIGID CABLE WITHOUT CONTACT & INSULATOR



Amphenol Number	Connector Type	Cable RG-/U	Stripping Dims., inches (mm)	
			a	c
901-9201-1A	SMA Plug	.141 RG-402	.091(2.3)	—

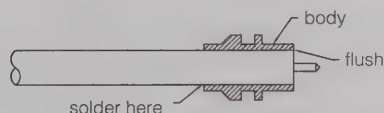
Step 1



Step 1

Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to dimensions shown in table. Do not nick center conductor. Remove burrs from cable jacket. File blunt end of center conductor to a 90° cone.

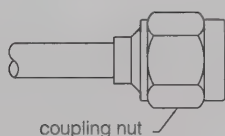
Step 2



Step 2

Assemble cable into connector body. Cable jacket and dielectric to be flush with end of body as shown. Solder cable to connector body. Avoid excessive heat which may distort dielectric.

Step 3



Step 3

Assemble snap ring in groove on connector body. Assemble gasket in position as shown. Compress snap ring and assemble coupling nut as shown.

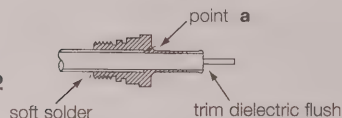
SOLDER TO COLLET METHOD FOR SEMI-RIGID CABLE

SMA Plug 901-509 for .141S/R

Step 1



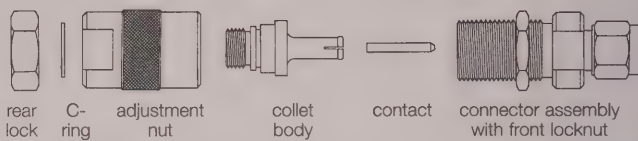
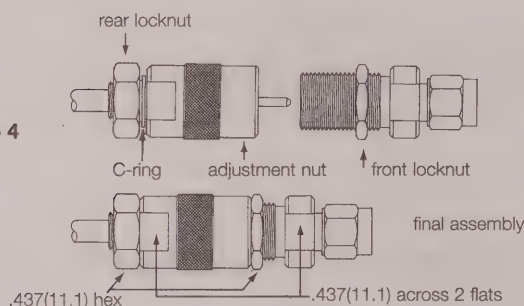
Step 2



Step 3



Step 4



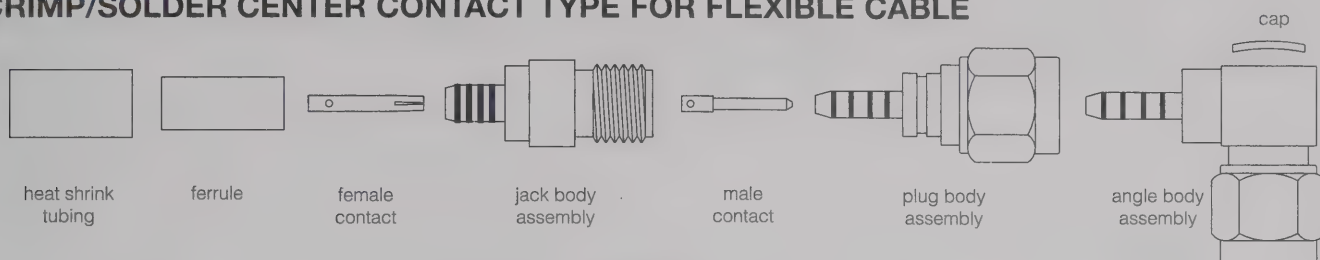
Step 1 Strip cable jacket to dimensions shown. To avoid cutting into dielectric, score cable jacket and flex slightly to break entirely through jacket. Slide rear locknut and adjustment nut onto cable.

Step 2 Insert cable into collet body and apply axial pressure to cable to assure good metal contact at Point a. Solder cable jacket to collet body with 60/40 solder. Trim dielectric flush with tines of collet body. Do not nick cable center conductor.

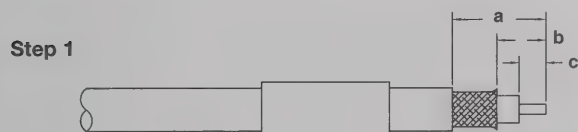
Step 3 Solder contact to cable center conductor with 60/40 solder and maintain the .007 dimension shown between contact and tines. Do not permit solder on contact o.d.

Step 4 Slide adjustment nut over collet body. Install C-ring into groove on collet body. Thread rear locknut loosely into place. Thread this assembly onto connector assembly. Make phase angle adjustment by turning adjustment nut: one revolution of nut = $[0.636 \times f(\text{GHz})]^\circ$. When desired phase angle is achieved, hold adjustment nut in place and turn the front locknut down against it. Then tighten rear locknut and assembly is complete.

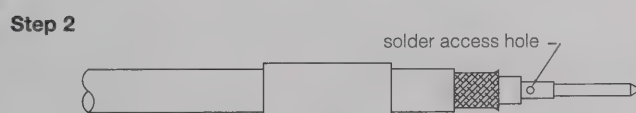
CRIMP/SOLDER CENTER CONTACT TYPE FOR FLEXIBLE CABLE



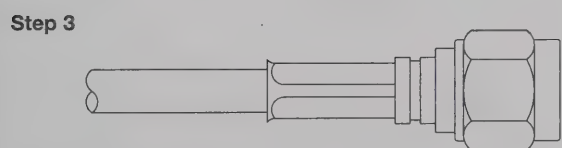
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)			Hex Crimp Data		
			a	b	c	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool
901-9511-1	SMA Plug	55, 142, 223, 400	.440(11.2)	.130(3.3)	.090(2.3)	.213(5.4)	227-1221-11	CTL-1
901-9511-1SF	SMA Plug	55, 142, 223, 400	.440(11.2)	.130(3.3)	.090(2.3)	.213(5.4)	227-1221-11	CTL-1
901-9511-2	SMA Plug	58, 141 B/YR20621	.440(11.2)	.130(3.3)	.090(2.3)	.213(5.4)	227-1221-11	CTL-1
901-9511-2SF	SMA Plug	58, 141 B/YR20621	.300(7.6)	.130(3.3)	.090(2.3)	.213(5.4)	227-1221-11	CTL-1
901-9531-1	SMA Angle Plug	55, 142, 223, 400	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11	CTL-1
901-9531-1SF	SMA Angle Plug	SF 142B	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11	CTL-1
901-9531-2	SMA Angle Plug	58, 141, B/YR20621	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11	CTL-1
901-9531-2SF	SMA Angle Plug	58, 141, B/YR20621	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11	CTL-1
901-9870	SMA Plug	58	.532(13.5)	.205(5.2)	.138(3.5)	.213(5.4)	227-1221-11	CTL-1
901-9871	SMA Plug	223	.532(13.5)	.205(5.2)	.138(3.5)	.213(5.4)	227-1221-11	CTL-1
901-9873	SMA Angle Plug	58	.543(13.8)	.216(5.5)	.102(2.6)	.213(5.4)	227-1221-11	CTL-1
901-9874	SMA Angle Plug	58	.543(13.8)	.216(5.5)	.102(2.6)	.213(5.4)	227-1221-11	CTL-1
901-9875	SMA Bulkhead Jack	174, 179, 187, 188, 316	.394(10.0)	.189(4.8)	.098(2.5)	.128(3.3)	227-1221-03	CTL-13;9
901-9876	SMA Plug	58	.532(13.5)	.205(5.2)	.138(3.5)	.213(5.4)	227-1221-11	CTL-1
901-9879	SMA Bulkhead Jack	174, 179, 187, 188, 316	.394(10.0)	.189(4.8)	.098(2.5)	.128(3.3)	227-1221-03	CTL-13;9
901-9880	SMA Angle Plug	58	.543(13.8)	.216(5.5)	.102(2.6)	.213(5.4)	227-1221-11	CTL-1
901-9902	SMA Angle Plug	223	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11	CTL-1



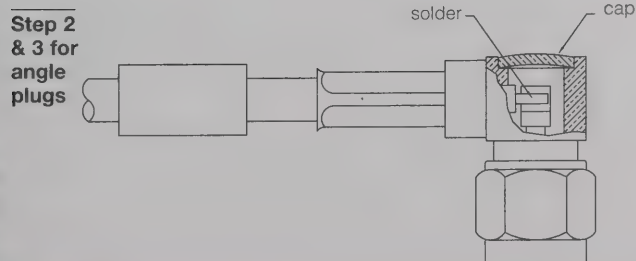
Step 1 Slide outer ferrule onto cable as shown. Strip cable jacket, braid and dielectric to dimensions shown in table. All cuts should be sharp and square. Do not nick braid, dielectric or center conductor when cutting.



Step 2 Flare end of cable braid slightly as shown to facilitate in section onto inner ferrule. Do not comb out braid. Solder center contact to cable (SN60-40 rosin core solder recommended.) Note: Center conductor should be visible through soft solder access hole in contact, prior to soldering.

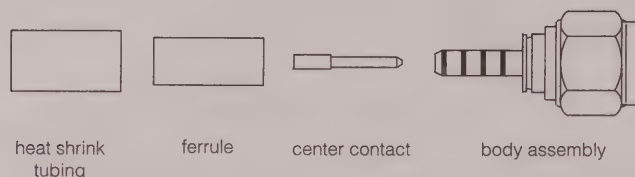


Step 3 Install body onto cable so that female portion slides under braid and insulator butts flush against cable dielectric. Slide outer ferrule over braid and up against body. Make sure no slack exists in braid. Crimp over ferrule with tool specified in table, keeping cable dielectric bottomed against insulator.



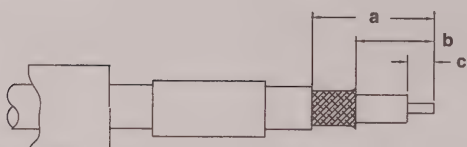
Step 2 & 3 Angle Plugs: Place cable dielectric into body and press ferrule against body as shown. Crimp with die set shown in table above. Solder cable center conductor into contact as shown. Insert cap and solder as shown or dimple and lightly punch center of cap for retention in body, for brass versions. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

CRIMP-CRIMP TYPES FOR FLEXIBLE CABLE



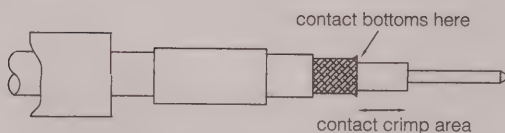
Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)			Contact Data Positioner for Tool 227-1454	Outer Ferrule Data			CTL Series Tool
			a	b	c		Positioner for M22520/1-01	Hex Cav. for Outer ferrule	Die Set for Tool 227-944	
901-101-15*	SMA Plug	142B, 400	.531(13.5)	.250(3.2)	.141(3.6)	—	/1-15	.213(5.4)	227-1221-11 Cav. A	CTL-1
901-9511-1SFC	SMA Plug	55, 58, 141, 142, 223, 400	.300(7.6)	—	.090(2.3)	227-1451-1	—	.213(5.4)	227-1221-11 Cav. A	CTL-1
901-9511-3*	SMA Plug	174, 179B,	.470(11.9)	.170(4.3)	.120(3.0)	227-1451-1	—	.128(3.3)	227-1221-11 Cav. A	CTL-139
901-9511-3SF*	SMA Plug	187A, 316	.470(11.9)	.170(4.3)	.120(3.0)	227-1451-1	—	.128(3.3)	227-1221-11 Cav. A	CTL-139
901-9511-3SFC	SMA Plug	174, 179, 187, 188, 316	.470(11.9)	.170(4.3)	.120(3.0)	227-1451-1	—	.128(3.3)	227-1221-03 Cav. A	CTL-139
901-9511-12SF*	SMA Plug	Dbl. Br. 316	.470(11.9)	.170(4.3)	.120(3.0)	227-1451-1	—	.151(3.8)	227-1221-37 Cav. B	CTL-139
901-9511-12SFC	SMA Plug	Dbl. Br. 316	.470(11.9)	.170(4.3)	.120(3.0)	227-1451-1	—	.151(3.8)	227-1221-37 Cav. B	CTL-139

Step 1



Step 1 Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor when cutting. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule. Do not comb out braid.

Step 2

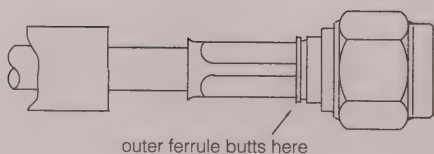


Step 2 For crimp contact type only:

Crimp center contact to cable conductor using 8-indent Tool and Positioner shown in Table above. Note: Contact must bottom against cable dielectric.

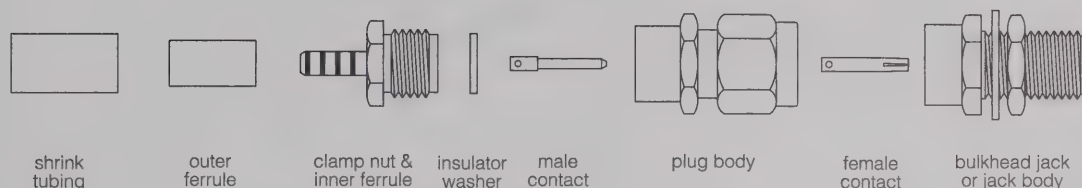
***For solder type connectors:**
Solder contact to center conductor.

Step 3



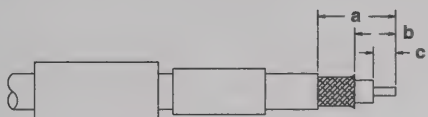
Step 3 Install inner ferrule of body assembly over cable dielectric and under braid. Place outer ferrule against body and crimp with tool 227-944 (M22520/5-01) and die set shown in table above. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

BRAID CRIMP-SOLDER CENTER CONTACT TYPES FOR FLEXIBLE CABLE



Amphenol Number	Connector Type	Cable RG-/U	Strip Dimensions, inches (mm)			Hex Cavity for Outer Ferrule	Die Set for Tool 227-944
			a	b	c		
901-9601-1SF	SMA Plug	55,58,141,142,223,400	.620(15.7)	.350(8.9)	.120(3.0)	.213(5.4)	227-1221-11 Cavity A
901-9601-3	SMA Plug	174,179,187,188,316	.620(15.7)	.350(8.9)	.120(3.0)	.128(3.3)	227-1221-03 Cavity A
901-9601-3SF	SMA Plug	174,179,187,188,316	.620(15.7)	.350(8.9)	.120(3.0)	.128(3.3)	227-1221-03 Cavity A
901-9602-1, -1SF	SMA Jack	55,58,141,142,223,400	.610(15.5)	.340(8.6)	.110(2.8)	.213(5.4)	227-1221-11 Cavity A
901-9602-3, -3SF	SMA Jack	174,179,187,188,316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-03 Cavity A
901-9602-12SF	SMA Jack	Double Braid 316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-03 Cavity A
901-9610-1SF	SMA Bulkhead Jack	55,58,141,142,223,400	.610(15.5)	.340(8.6)	.110(2.8)	.213(5.4)	227-1221-11 Cavity A
901-9610-3, -3SF	SMA Bulkhead Jack	174,179,187,188,316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-03 Cavity A
901-9610-12SF	SMA Bulkhead Jack	Double Braid 316	.610(15.5)	.340(8.6)	.110(2.8)	.151(3.8)	227-1221-37 Cavity B

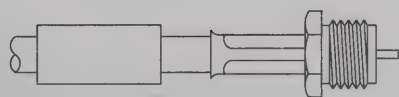
Step 1



Step 1

Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor when cutting. Tin center conductor. Avoid excessive heat to prevent swelling of cable dielectric. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule. Do not comb out braid.

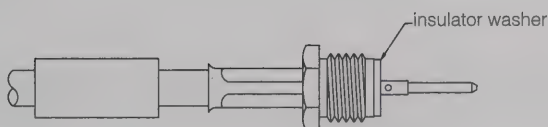
Step 2



Step 2

Slide clamp nut over inner ferrule, and slide inner ferrule under braid until cable dielectric is flush with front of inner ferrule. Slide outer ferrule in place and crimp with die set shown in table above.

Step 3



Step 3

Place insulator washer on cable center conductor and bottom against inner ferrule body as shown. Contact must butt firmly against insulator washer while soldering.

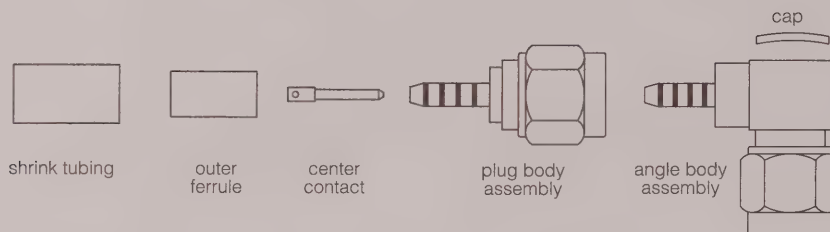
Step 4



Step 4

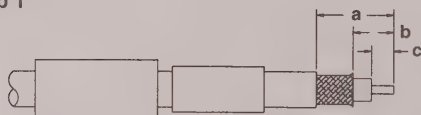
Screw ferrule-contact assembly into body and tighten to 20-25 lbf.-in. torque. Slide heat shrink tubing over ferrule, up against clamp nut and shrink by applying heat.

BRAID CRIMP-SOLDER CENTER CONTACT TYPES FOR RG-174 & RG-179 CABLE GROUPS



Amphenol Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)			Hex Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool
			a	b	c			
901-9531-3, -3SF	SMA Angle Plug	174, 179, 187, 188, 316	.475(12.1)	.235(6.0)	.090(2.3)	.128(3.3)	227-1221-03 Cavity A	CTL-9
901-9872	SMA Angle Plug	174, 179, 187, 188, 316	.472(12.0)	.216(5.5)	.102(2.6)	.128(3.3)	227-1221-03 Cavity A	CTL-9
901-9877	SMA Plug	174, 179, 187, 188, 316	.421(10.7)	.165(4.2)	.098(2.5)	.128(3.3)	227-1221-03 Cavity A	CTL-9
901-9916	SMA Plug	174, 179, 187, 188, 316	.421(10.7)	.165(4.2)	.098(2.5)	.128(3.3)	227-1221-03 Cavity A	CTL-9
901-9531-12, -12SF	SMA Angle Plug	Double Braid 316	.475(12.1)	.235(6.0)	.090(2.3)	.151(3.8)	227-1221-37 Cavity B	—
901-9881	SMA Angle Plug	174, 179, 187, 188, 316	.472(12.0)	.216(5.5)	.102(2.6)	.128(3.3)	227-1221-03 Cavity A	CTL-9

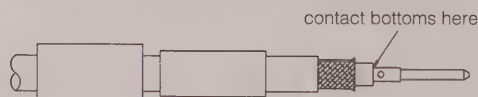
Step 1



Step 1

Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor when cutting. Tin center conductor. Avoid excessive heat to prevent swelling of cable dielectric. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule. Do not comb out braid.

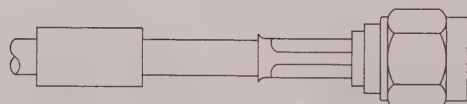
Step 2



Step 2

Solder center contact to cable center conductor as shown. Remove excess solder. **Note:** Contact must bottom against cable dielectric. (For angle plugs skip to Step 3B below.)

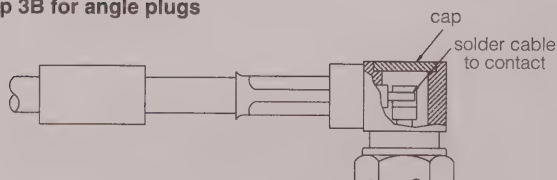
Step 3



Step 3

Install coupling nut and body assembly as shown. Place ferrule against body and crimp with die set shown in table above. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

Step 3B for angle plugs



Step 3B

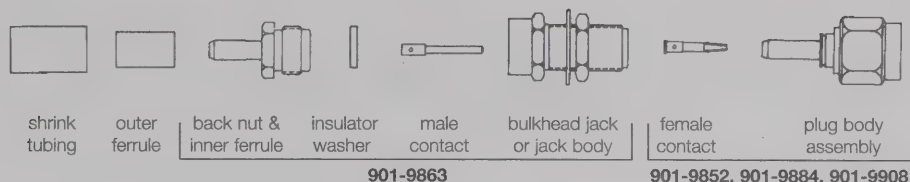
For angle plugs: Place cable dielectric into body and press ferrule against body as shown. Crimp with die set shown in table above. Solder cable center conductor into contact as shown. Insert cap and solder as shown or dimple and lightly punch center of cap for retention in body, for brass versions. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

Assembly Instructions-C58

SMA-Reverse Polarity

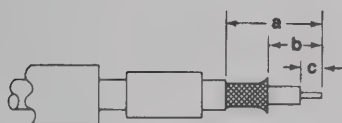
Amphenol®

BRAID CRIMP-SOLDER CENTER CONTACT TYPES FOR FLEXIBLE CABLE



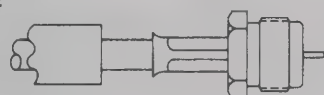
Amphenol Number	Connector Type	Cable RG-/U	Strip Dimensions, inches (mm)			Hex Cavity for Outer Ferrule	Die Set for Tool 227-944
			a	b	c		
901-9884	Plug	55, 142, 223, 400	.480(12.2)	.250(6.4)	.140(3.6)	.213(5.4)	227-1221-11 Cavity A
901-9852	Plug	174, 179, 187, 188, 316	.500(12.7)	.260(6.6)	.150(3.8)	.128(3.3)	227-1221-3 Cavity A
901-9863	Bulkhead Jack	174, 179, 187, 188, 316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-3 Cavity A
901-9908	Angle Plug	223	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11 Cavity A

Step 1

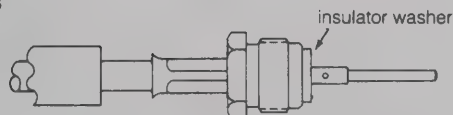


For 901-9863 RP-Bulkhead Jack

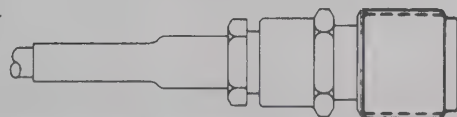
Step 2



Step 3

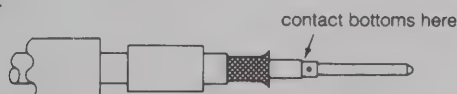


Step 4

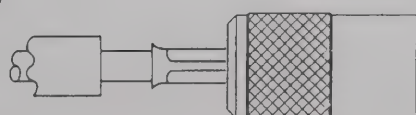


For 901-9884, 901-9852, 901-9908 RP Plugs

Step 2



Step 3



Step 1

Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor when cutting. Tin center conductor. Avoid excessive heat to prevent swelling of cable dielectric. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule. Do not comb out braid.

Step 2

Slide clamp nut over inner ferrule, and slide inner ferrule under braid until cable dielectric is flush with front of inner ferrule. Slide outer ferrule in place and crimp with die set shown in table above.

Step 3

Place insulator washer on cable center conductor and bottom against inner ferrule body as shown. Contact must butt firmly against insulator washer while soldering.

Step 4

Screw ferrule-contact assembly into body and tighten to 20-25 lbf.-in. torque. Slide heat shrink tubing over ferrule, up against clamp nut and shrink by applying heat.

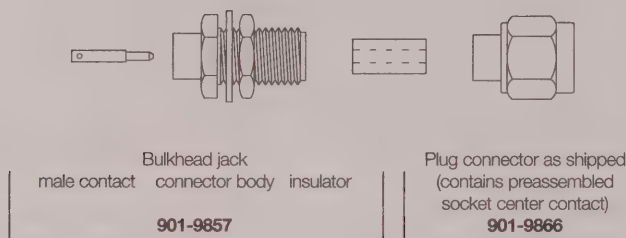
Step 2

Solder center contact to cable center conductor as shown. Remove excess solder. Note: Contact must bottom against cable dielectric.

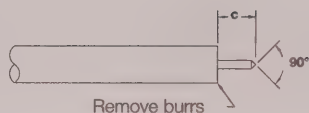
Step 3

Install coupling nut and body assembly as shown. Place ferrule against body and crimp with die set shown in table above. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

SOLDER TYPES FOR .141" SEMI-RIGID CABLE

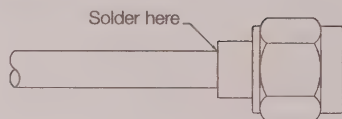


Step 1



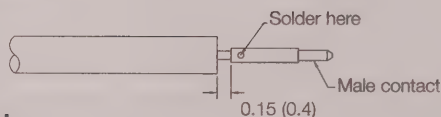
Step 1 Clean cable end for .625"(16mm) min. length. Trim cable jacket and dielectric to $c = .090(2.3)$ for 901-9866 or $c = .125(3.2)$ for 901-9857. Do not nick center conductor. Remove burrs from cable jacket and center conductor. For 901-9866, file blunt end of center conductor to a 90° cone.

Step 2 for 901-9866 RP-Plug RP-Plug



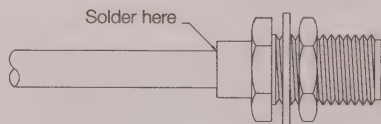
Step 2 For 901-9866 assemble cable into connector body. Make sure center conductor is straight. Use care in pushing center conductor into spring contact. Make sure jacket bottoms in connector. Maintain end pressure while soldering. Avoid excessive heat which may distort dielectric.

Step 2 for 901-9857 RP-Bu



Step 2 For 901-9857 solder contact to center conductor. Use .015"(.4mm) shim to accurately maintain space between jacket, dielectric and contact. Remove all excess solder.

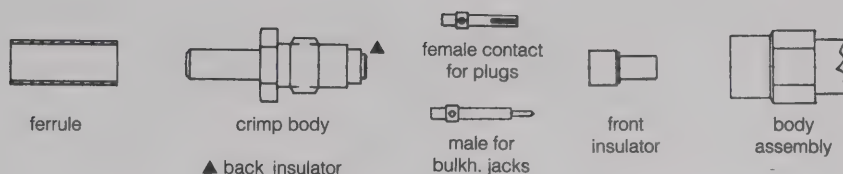
Step 3a, b



Step 3a Assemble cable and contact into connector body. Cable jacket and dielectric to be flush with shoulder of body as shown. Solder cable to connector body. Avoid excessive heat which may distort dielectric.

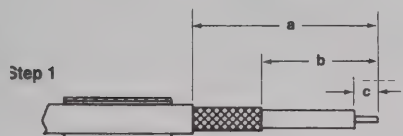
Step 3b Press fit insulator into connector body. Bottom insulator in connector body as shown.

CRIMP TYPE PLUGS & BULKHEAD JACKS



Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (MM)		
					a	b	c
903-108J-71S	75Ω SMB Bulkh Jack	179	.128(3.3)	227-1221-03 Cav. A	.673(17.1)	.433(11.0)	.093(2.4)
903-152P-71S	75Ω SMB Plug	180, 195	.178(4.5)	227-1221-09 Cav. A	.673(17.1)	.433(11.0)	.093(2.4)
903-285P-51S	50Ω SMB Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.642(16.3)	.402(10.2)	.080(2.0)
903-287P-51S	50Ω SMB Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.642(16.3)	.402(10.2)	.080(2.0)
903-370P-51S	50Ω SMB Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.642(16.3)	.402(10.2)	.080(2.0)
903-371P-51S	50Ω SMB Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.642(16.3)	.402(10.2)	.080(2.0)
903-401P-51S	50Ω SMB Plug	Dbl. Shield 316	.151(3.8)	227-1221-37 Cav. B	.642(16.3)	.402(10.2)	.080(2.0)
903-502P-71S	75Ω SMB Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.460(11.7)	.210(5.3)	.110(2.5)
903-505J-51S	50Ω SMB Jack	174, 188, 316	.128(3.3)	227-1221-03 Cav. A	.405(10.3)	.180(4.6)	.093(2.4)
903-505J-51S1	50Ω SMB Jack	Dbl. Shield 316	.128(3.3)	227-1221-03 Cav. A	.405(10.3)	.180(4.6)	.093(2.4)
903-516P-71S	75Ω SMB Plug	Belden 735A	.178(4.5)	227-1221-09 Cav. A	.480(12.2)	.190(4.83)	.110(2.79)
903-536P-71S	75Ω SMB Plug	179	.178(4.5)	227-1221-09 Cav. A	.480(12.2)	.190(4.83)	.110(2.79)

Step 1



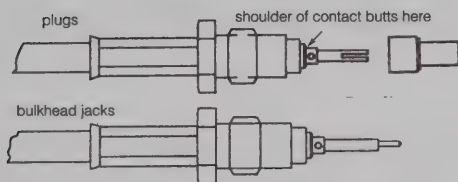
Step 1 Slide ferrule over cable. Trim cable to dimensions shown in table above. Tin center conductor.

Step 2



Step 2 Insert cable into back end of crimp body assembly as shown. Dielectric will bottom in back insulator. Slide ferrule over braid and crimp using hex die shown in table above.

Step 3



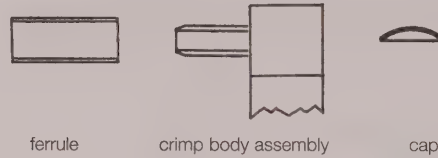
Step 3 Assemble contact over center conductor so that shoulder of contact butts against back insulator. Heat contact to solder. For SMB plugs: After soldering contact, assemble front insulator over contact.

Step 4



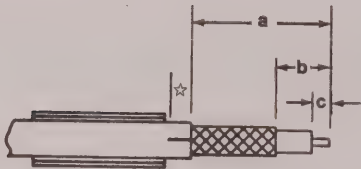
Step 4 Insert assembly into body assembly and tighten to a torque of 90 to 100 ozf-in.

CRIMP TYPE ANGLE PLUGS & ANGLE BULKHEAD JACKS



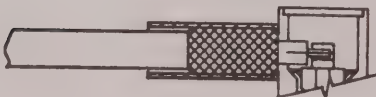
Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (mm)		
					a	b	c
903-517P-71A	75Ω SMC Angle Plug	Belden 735A	.178(4.5)	227-1221-09 Cav. A	.440(11.2)	.180(4.57)	.090(2.28)
903-289P-51A	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-289P-51A2	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-291P-51A	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-291P-51A1	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-367P-51A	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-367P-51A1	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-367P-51A2	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-368P-51A	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-368P-51A1	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-369P-51A	50Ω SMB Angle Plug	Dbl. Braid RG-316	.151(3.8)	227-1221-37 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-369P-51A2	50Ω SMB Angle Plug	Dbl. Braid RG-316	.151(3.8)	227-1221-37 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-422J-51A	50Ω SMB Ang. Blkh Jack	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-429P-51A	50Ω SMB Low Prof. Angl Plg	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.400(10.2)	.200(5.1)	.050(1.3)
903-495P-71A	75Ω SMB Angle Plug	Belden 9248	.324(8.2)	227-1221-32 Cav. A	.500(12.7)	.250(6.4)	.250(6.4)
903-535P-71A	75Ω SMB Angle Plug	179	.178(4.5)	227-1221-09 Cav. A	.440(11.2)	.180(4.57)	.090(2.28)

Step 1



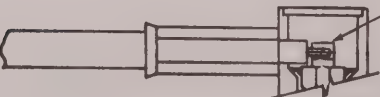
Step 1 Slide ferrule over cable. Trim cable to dimensions shown in table above. Tin center conductor.
☆ for P/N 903-429P-51A only, make 2 slits in jacket .062" (1.6mm) long, 180° apart.

Step 2



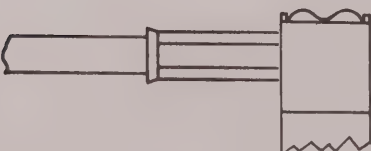
Step 2 Insert cable into back end of crimp body assembly as shown. Center conductor will enter slot in contact. Slide ferrule over braid and crimp using hex die shown in table above.

Step 3



Step 3 Solder center conductor into contact.

Step 4



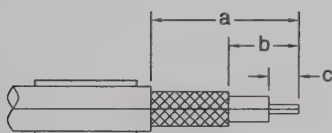
Step 4 Insert cap into body and dimple or lightly punch center of cap for retention in body.

CRIMP TYPE PLUGS



Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (MM)		
					a	b	c
903-508P-51S	50Ω SMB Plug	174, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.185(6.7)	.079(2.0)
903-509P-51S	50Ω SMB Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.185(6.7)	.079(2.0)

Step 1



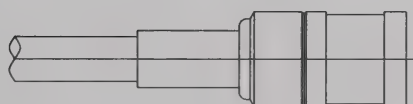
Step 1 Slide ferrule over cable. Trim cable to dimensions shown in table above.

Step 2



Step 2 Tin center conductor
Assemble contact over center conductor so that shoulder of contact butts against cable dielectric. Heat contact to solder.

Step 3



Step 3 Insert cable and contact into back end of crimp body. Contact shoulder will bottom in insulator. Slide ferrule over braid and crimp using hex die shown in table above.

Notes



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Plating and Insulator/Dielectric Codes

Plating Codes

Plating Code	Body	Contact
P1	Nickel	Silver
P2	Nickel	Nickel
P3	Nickel	—
P4	Silver	Silver
P5	Nickel	Tin-Lead
P6	Tin-Lead	Gold
P7	Nickel	Contacts: Gold Terminals: Silver Legs: Tin-Lead Tin Dip
P8	—	Gold over Copper
P9	Gold over Copper	Gold over Nickel
P10	Gold over Copper	Gold over Nickel
P11	Gold over Nickel	Gold over Nickel
P12	Passivated	Gold over Copper
P13	Passivated	Gold over Nickel
P14	Gold over Copper	—
P15	Nickel	Gold over Nickel
P16	Body: Gold over Nickel Cube & Legs: Tin-Lead	Gold over Nickel
P17	Nickel	Gold over Copper
P22	Nickel over Copper	Center Contact: Gold over Nickel Outer Contact: Nickel over Copper Gold over Copper (Tin-Plated Terminals)
P26	Nickel over Copper (Black Epoxy) Legs: Tin over Nickel	Silver
P27	—	Contact: Gold over Copper
P28	Nickel	Ground Tab: Silver Gold over Nickel over Copper
P29	B: Gold over Nickel over Copper N: Passivated	Gold over Nickel
P33	Silver	Gold over Copper
P34	Silver	Gold over Nickel
P35	Conductive Black UV Coat over Zinc	—
P36	Tin-Lead	Tin-Lead
PCF	Consult Factory	—

Insulator/Dielectric Codes

Ins. Code	Dielectric Material
D1	TFE or equiv. per MIL-P-19468A
D2	PBT Polyester, 30% glass reinforced MIL-P-46161 Grade A Class 3
D3	Diallyl Phthalate, MIL-M-14F, Type SDG
D4	Durez 16274 Phenolic
D5	Polystyrene
D6	Copolymer of Styrene, Type E-2 per MIL-P-77C
D9	PTFE per ASTM-D-1457
D11	Glass Pressure Seal
D12	Noryl GFN2 20% Glass filled
D14	Polypropylene
D15	20% Glass filled Polycarbonate/Polypropylene
D17	Valox Housing, Noryl Insulator
D19	Noryl GFN2 SE 1/Noryl HS2000
D20	Black Valox Housing, White Noryl Insulator
D22	Noryl SE-100-80283
D23	Delrin
D24	Phenolic
D25	PBT Polyester
D26	TPX
D30	LCP
D31	Valox
D32	Red TFE or equiv. per ASTM D1457
L1	Molded, Liquid Crystal Polymer

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095-680-98000		MMCX/SMA	Cable Assembly	11	31-17	CW-159/U	BNC	Male Shorting Cap and Chain	84
095-680-98001			Cable Assembly	11	31-2	UG-88/U	BNC	Plug RG58 Clamp	71
095-680-XXXXX		MMCX/xxxx	Cable Assembly	11	31-2-RFX		BNC	Plug RG58 Clamp	71
102-909-01		1.0/2.3	Jack, PCB Receptacle	19	31-202	UG-88C/U	BNC	Plug RG58 Clamp	71
102-911-02		1.0/2.3	Blk Jack, Rec. R mt	19	31-203	UG-290A/U	BNC	Panel Receptacle (J)	76
102-913-06		1.0/2.3	Blk Jack for RG 174, 188, 316	19	31-203-RFX		BNC	Panel Receptacle (J)	76
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102-990-06		1.0/2.3	Str. Plug for RG 174, 188, 316	19	31-206	UG-909/U	BNC	Bulkh Jack RG58 Clamp	75
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156-931-34		1.6/5.6	Bulkh Jack BT3002 Crimp	135	31-212	UG-260B/U	BNC	Plug RG59,62 Clamp	71
15875		BNC	Plug RG178 Clamp	71	31-212-1005		BNC	Plug RG59 20GA Clamp	71
16300		BNC	Plug RG180 Clamp	71	31-212-RFX		BNC	Plug RG59,62 Clamp	71
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18750		N	Angl Plg RG58 Clamp	112	31-218-75RFX		75ΩBNC	T2 Adapter (P/P)	92
21900		BNC	T Adapter (P/J/J)	82	31-218-RFX		BNC	Adapter (P/P)	81
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227-1221-11	M22520/05-11	Die Set	Hex Cavities .213 .068	178	31-219-RFX		BNC	Adapter (J/J)	81
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227-1221-15	M22520/05-15	Die Set	Hex Cavities .263 .068	178	31-2209	UG-306B/U	BNC	Use 31-9	81
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227-1221-29	M22520/05-29	Die Set	Hex Cavities .324 .100	178	31-220N		BNC	Bulkhead Adapter (J/J)	83
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227-1221-37	M22520/05-37	Die Set	Hex Cavities .314 .151	178	31-220N-75RFX		75ΩBNC	T2 Bulkhead Adapter (J/J)	93
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227-1221-61		Die Set	Hex Cavities .429 .116	178	31-221-75RFX		75ΩBNC	T2 Bulkhead Receptacle (J)	88
227-1221-62		Die Set	Hex Cavities .151 .068	178	31-221-RFX		BNC	Bulkhead Receptacle (J)	77
227-1350		Die Set	Cavs .260 & .210 hex .052sq		31-222	UG-1098/U	BNC	Angle Bulkh Receptacle (J)	76
227-1409		Die Set	Cavities .213 hex .052sq	178	31-2221	UG-1094A/U	BNC	Bulkhead Receptacle (J)	77
227-1414		Die Set	Hex Cavities .429 .075 .075	178	31-2225		Twin-BNC	Bulkhead Receptacle (J)	99
227-1417		Die Set	ECONOHEX .429 .075 .075	179	31-2226		Twin-BNC	Plug RG108A Clamp	99
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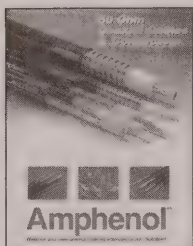
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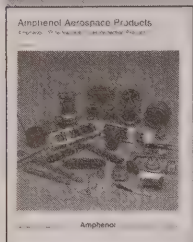
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50 Ohm Coaxial Cables and Interconnects

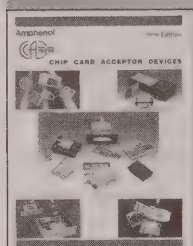
Times Fiber Corporation has developed a new, high performance line of connectors for TWB and TXL cables which are also compatible with most other brands of cable. Amphenol has designed its products from the ground up to meet and exceed these needs. These products offer quality innovative solutions to various applications in PCS, Cellular, Paging and AM and FM broadcasts.

For a product catalog, call **(800) 203-0076**. For a 75 Ohm Times Fiber cable book, call **(800) 677-CATV**



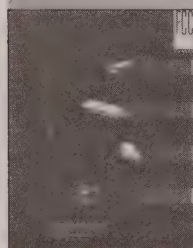
Aerospace Products

This publication is intended to illustrate and briefly describe the Amphenol/Pyle-National Interconnection Product Lines. The sections of this brochure are by family types. Each type of connector is available in a variety of sizes and configurations. These detailed catalogs include dimensional drawings, insert patterns and how to order information. For a product catalog, call **(800) 678-0141**



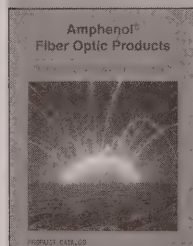
Chip Connectors

Also call IC card, Integrated Circuit card, Smart card, as well as a number of application specific titles... a chip card is basically a standard plastic "credit card" with an integrated circuit silicon chip embedded in a die that is milled out of the plastic. Eight gold-plated pads are connected to the IC. These pads are the card's interface with the outside world. For a product catalog, call **(734) 451-6400** in the US or **(49-7) 13.19.29.322** in Europe.



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Amphenol Canada Corp., a subsidiary of Amphenol Corporation, is an international leader in the manufacture of Filtered Connectors and Specialty Interconnect Devices, and has been pioneering EMI and EMP technologies for more than 30 years. EMI/EMP filter connector products which are used in Commercial, Industrial, Communications, Military and Aerospace applications worldwide. For a product catalog, call **(416) 291-4401**



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Amphenol's line of D-Subminiature rack and panel connectors is part of an industry standard for applications requiring reliable, rugged, high density connectors. These connectors are designed to accommodate rack and panel, cable to panel and cable to cable applications. Amphenol D-Subminiature connectors can be used in commercial, industrial or military markets. Applications include Business equipment, Electronic office systems, Data communication, Medical equipment and SCSI interfacing. For a product catalog, call **(416) 291-4401**



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Specifications

Specifications in this document are subject to change without notice. Contact your Amphenol Communication and Network Products Division sales representative for the latest specifications.

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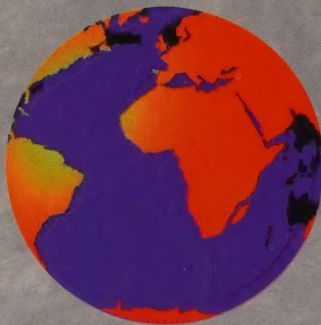
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